

Sportsman Pilot TM



Fall  **1982**



Sportsman Pilot



VOLUME 2

FALL 1982

NUMBER 3

ALL ARTICLES AND PICTURES BY JACK COX UNLESS OTHERWISE CREDITED.

Kaleidoscope	3
The Honeymoon Special	6
Dago Red Romps At Reno	10
Full House Q2	15
Gee Bee Model Y Replica A'Building	16
Mike Fisher's FP-101	18
The Zippy Sport	20
In Retrospect . . . The Piper Cub Coupe	22

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Sportsman Pilot (ISSN 0279-1749) is published quarterly by Sportsman Pilot, 3965 West College Ave., Milwaukee, Wisconsin 53221. Postmaster: Send address changes and all other correspondence to P.O. Box 485, Hales Corners, Wisconsin 53130.

One year subscription rate for U.S. is \$7.50; Canada, Mexico and overseas \$8.50, payable in U.S. currency only. Address subscriptions and correspondence to: Sportsman Pilot, P.O. Box 485, Hales Corners, WI 53130.

Second Class postage paid at Milwaukee, Wisconsin 53203 and other Post Offices.

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Mag Check

A number of significant developments have slipped by under our wings since the last issue of **Sportsman Pilot**. On the plus side, FAA has granted EAA an STC to burn unleaded auto fuel in the Cessna 150 and has, at long last, issued its rules on ultra-lights. The bad news is that Congress and President Reagan have given us a new ADAP law that ups the tax on aviation fuel from four cents per gallon to twelve cents. General aviation jet fuel increases to fourteen cents per gallon . . . which is significant because it's the first time the government has acknowledged that corporate aircraft are heavier users of the airport and airways system than are private owners and, therefore, should bear a proportionately larger share of the tax burden. Two cents is not enough difference, however.

The tax money is to be spent largely on two things: the day-to-day operations of FAA and modernization of the ATC system. **Sportsman Pilot** is inalterably opposed to the former and is in favor of a more equitable distribution of the burden for the latter.

First, expecting only direct users to fund the day-to-day operations of FAA presumes that the service provided by FAA benefits ONLY air line passengers and the pilots and owners of small aircraft. If that were true, there would be no justification whatever for an FAA. We could close it down, fire all the government employees and save a **bundle**. But it's NOT true. As we saw during the first few days of last year's controller's strike, economic havoc swept throughout the nation when the system shut down. All forms of transportation and communication are basic to modern society and the costs incurred in their regulation by government, if needed, should be borne by every citizen. People who eat meat aren't required to pay a "users" fee to the Department of Agriculture because it inspects the meat . . . and we pilots have no more of an obligation to shoulder the full burden of financing the FAA.

And then there's the new ATC system . . . being upgraded for the air lines, of course. According to one source, it will cost around \$25,000 to equip each of our personal aircraft to fully utilize all the electronic bells and whistles FAA wants to have in place by the late 1980s. **Sportsman Pilot** stands foursquare behind the proposition that a citizen should not be required to pay for any government "service" he does not need, does not want and/or cannot afford.

If you own a no-radio Taylorcraft, you should not have to pay taxes **at the same rate** as a corporation that operates an IFR Navajo in its pursuit of profits for its stockholders . . . but you do. The T-Crafter is, therefore, subsidizing the corporation that writes off all its airplane expenses, anyway.

The only way this inequitable situation will ever be remedied is for FAA and Congress to begin thinking of aviation as having three levels instead of the two, airlines and general aviation, they now recognize. How about non-commercial, commercial and air carrier . . . each taxed and regulated according to **need**?

KALEIDOSCOPE



METEORPLANE ADDENDA

Following our last issue, we heard from Hollis Button of Campbell, CA with some additional information on Irwin Meteorplanes. First, the FA-1 in the Oakland museum is not a replica. It is an original Meteorplane owned by Jack Irwin and last flown in 1937 or 1938. It was stored for 30 years on a friend's apple ranch north of Aptos, CA, during which time the little 4-cylinder engine was stolen and used to run an irrigation water pump. Irwin retrieved the airplane — and engine — in the late 60s, restored it and sold it to the museum.

Button's FA-1 is a brand new airplane, built from Irwin drawings and with the advice of the designer, himself. The 4-cylinder radial was also made from scratch by Hollis — he made patterns from Irwin's drawings, had castings made and machined them. Ready to run, the little radial weighs 72 pounds — and produces 25 hp at 2175 rpm, burning 2 gph.

Hollis left for England in mid-September in hot pursuit of a Bristol Cherub III engine. Wants to build an authentic Heath Baby Bullet. He is also looking for a 1916 Lawrence 2-cylinder opposed engine for an Alco Sportplane and a 3-cylinder, 35 hp Anzani for a Nieuport II he wants to build. Send any leads to: Hollis Button, 1025 W. Parr Ave., Campbell, CA 95008.

BOB LOVEJOY

It is with sadness that we report the death of Bob Lovejoy — in early September. We pictured his new ultralight design last time, and it was in a production version of that aircraft that he lost his life. Bob was flying on the El Mirage dry lake north of Los Angeles when the machine pitched down, impacting past vertical. Ken Brock inspected the wreckage and found that

the locking pin in the front end of the push/pull cable being used to control the elevator had apparently been left off when the ultralight had been assembled for flight. Shortly after take-off, the cable separated from the stick, leaving Bob with no elevator control. Ken learned from witnesses that a crowd had gathered as Bob was assembling the craft and it is suspected that in talking to them, he was distracted to the extent that he simply forgot to install the pin.

Bob, who was 38, was an extremely talented person and his loss will be felt in several fields in which he had been making significant contributions. His mark in aviation was made a decade ago when he designed the original Quicksilver hang glider. The present line of Quicksilver ultralights . . . and all its imitators . . . are Bob's legacy. He never got credit for his pioneering work . . . until now as ultralight publications publish his obituary.

It's been a bad year or so for ultralight . . . and homebuilt . . . designers.

INDUSTRY WOES CONTINUE

The general aviation manufacturer's tailspin continues . . . winding ever tighter as the year's fourth quarter begins. Since August, the **entire** industry has been delivering less than 300 new aircraft per month **of all types**. As you will read elsewhere in this issue, Piper once sold that many Cubs **alone** . . . 42 years ago. For the first eight months of this year, 3,110 aircraft were delivered — down more than 50% from the 6,611 delivered in the same period last year. It appears 1982 will be the worst year since 1955 when 4,434 aircraft were produced. It's not much in the way of consolation, but at least we're past the all-time post war production low — 2,302 in 1951.

The all-time high production year, incidentally, was 1946 when 35,000 light-

planes were shipped by the U.S. aircraft industry. We've never even come close since.

Industry keeps saying that high interest is the cause of all its problems . . . but is it? It's a significant factor, of course, but is there something even more fundamental involved? Why, for example, has activity come to such a standstill at airports in most of the U.S. — most notably in the mid-west? This phenomenon involves **existing** aircraft owners, not buyers of new aircraft. **The reason is \$2.00 per gallon aviation gasoline.** The only place where much flying is still occurring is on both coasts where, inexplicably, avgas can still be purchased for \$1.60 to a \$1.80 per gallon at some airports. People here in the hinterlands have quit or cut back drastically on their flying because fuel cost per hour is too expensive . . . and they aren't buying new airplanes because current designs are, in the auto idiom, gas guzzlers.

If interest rates drop today, will pilots resume buying airplanes that burn \$20.00 worth of gasoline per hour? Especially at today's new aircraft prices. It is one of the ironies of this silly season that Cessna recently announced price increases for its 1983 152s and Skyhawks, amounting to **thousands** of dollars . . . despite the fact that they haven't made one of either since March 29!

The last time we were in a mess comparable to the present situation was in the early 30s. The economic disaster that was the Great Depression suddenly made the big biplanes of the late 20s far too expensive for the average person to operate. Out of the ashes then rose the "flivver planes", the 30 to 40 horsepower Aeronca C-2s and 3s, E-2 Cubs, Curtiss Juniors, etc. — which operated at a fraction of the cost of, say, J-5 powered Travel Airs. As the economy gradually improved in the late 30s, those primitive early flivvers evolved into the 65 hp Cubs, Taylorcraft, Aeroncas, Luscombes, etc., that would be the backbone of the U.S. general aviation fleet for the next 20 years. These aircraft were not great technical achievements . . . their greatest virtue was that **THEY WERE AFFORDABLE.**

Have we come full circle? Who will produce a 60 to 80 horsepower engine today? Who will certify a modern airframe designed for that power? Will the established manufacturers have the flexibility to switch from their present product lines . . . or, as in the 30s, will it be new companies who will step into the breach?

Or, will it be our homebuilt kit producers who will inherit the sky?

SCALED COMPOSITES

Ground was broken on August 12 for Burt Rutan's latest venture, a new company called Scaled Composites, Inc. A 30,000 square foot hangar/shop/office facility is going up next door to Rutan Aircraft on the Mojave, CA airport, with a target completion date of December 25 . . . Burt's Christmas present, no

doubt! Formed by Burt and Herb Iversen, Scaled Composites is a research and development outfit that will, among other things, create aircraft like the NASA AD-1 and Fairchild Republic Next Generation Trainer (NGT — which, incidentally, won the Air Force competition). The success of these proof-of-concept demonstrators already has the aviation industry beating a path to Scaled Composites' door and projects are now underway, even before the building has been completed. All are secret, of course — R&D projects usually are — but somewhere along the line some big things must be in the offing. The hangar door is 100 feet wide!

SOLITAIRE WINS SSA COMPETITION

Meanwhile, next door at Rutan Aircraft Factory (RAF), Mike Melvill and his troops are hard at work on the drawings for the victorious Solitaire powered sailplane . . . victorious, because it was recently declared the winner of the Soaring Society of America's sailplane design competition. January 1 is the target for putting the plans for the Solitaire on the homebuilt market. Featured on our cover last time, the sleek little canard is now flying with the KFM 107E direct drive engine, which is fitted with a starter and alternator. This is the same engine, designed specifically for aircraft use, that John Monnett has been using so successfully in his Moni. It is working equally well in the Solitaire, despite the fact that the optimum prop has not yet been developed. Currently pulling only 60% power, it is producing a 600 fpm rate of climb in calm air.

VOYAGER VIGNETTE

A contract has been signed by Rutan Aircraft Factory and Voyager Aircraft (Dick Rutan and Jeana Yeager) to build the Voyager, a round-the-world, non-stop, non-refueled challenger designed by Burt Rutan. Work on the fuselage has already begun and by next summer the 100 foot flying fuel tank should be ready for its first flight.

Incidentally, foreign backing for the project was offered earlier this year and was turned down. Confident of ultimate success, the Rutans and Jeana want this last great aeronautical record to be an all-American accomplishment. They don't want the Voyager hanging in the National Air and Space Museum with the name of a Japanese department store . . . or whatnot . . . emblazoned down the side of the fuselage!

GEMINI REPORT

The Gemini, a two-place, side-by-side, all-composite, push/pull VW powered twin displayed at Oshkosh this summer by Dave and Kathy Ganzer is still being fine tuned before a decision is made on putting the design on the homebuilt market. Work was slowed recently when the Ganzers made a move from their

previous home in San Diego to Mojave, CA. Dave is now employed by Scaled Composites.

COZY COMMUNIQUE

The latest word is that Nat Puffer's Cozy, a 2-place, side-by-side development of the Long-EZ is to be further developed and marketed by Nat from his home base in the Minneapolis-St. Paul area. There was some speculation immediately after Oshkosh that Rutan Aircraft might assume development and marketing of the design, but that apparently is not to be the case. There is a great deal of interest in the Cozy, showing again the popularity of the side-by-side configuration. People just like to be . . . well, cozy.

BULLET ALMOST READY TO FIRE

Molt Taylor's newest design, the front engined (but still a tail pusher) Bullet, is rapidly nearing completion. It is being built for a local (Longview, WA) business man who previously owned a high performance single. He wants economy with his speed for a change.

Molt has so many irons in the fire — designing props, ultralight drive systems, new construction materials, an ultralight, a new ignition system, consulting on a number of projects, etc., etc.

But, then, he's always been into **something**. Did you know that in the late 30s Molt was the Southern California distributor for Luscombes and Culver Cadets? Or, that during the same period he was operating a company out of Hangar 15 at Long Beach airport called Taylor Airphone Products that produced some of the earliest 2-way radio equipment for lightplanes . . . and was a competitor of another radio pioneer named Bill Lear? And did you know that on April 9, 1942 the world's first successful surface-to-surface guided missile attack was carried out off the coast of Rhode Island, and that the pilot sitting in the back of a Navy Twin Beech guiding the TG-2 torpedo plane drone by watching a television screen was a Lt. (jg) named, yes, Molt Taylor. Ten days later, Molt also remotely piloted the world's first air-to-surface guided missile attack, planting a drone right into a moving target raft on the first try . . . from 11 miles away in the Twin Beech. Molt was a key figure in a super secret Navy project to develop the first guided missiles early in World War II.

After the war, he went home to Longview, WA to develop and eventually certify his Aerocar . . . then got into homebuilts with his Coot amphibian, IMPs — and you know the rest.

COMET COMMENTARY

In our Spring 1982 issue we gave you a little whiff of nostalgia concerning the de Havilland Comet racer, winner of the 1934 London to Melbourne air race. The airplane, G-ACSS Grosvenor House, still exists and is being restored to **flying**

condition by its current owner, the famed Shuttleworth Trust. The decision to risk the airplane has not yet been made, but everyone working on it expects it to make a return commemorative flight to Australia in 1984, the 50th anniversary of the race. Since it is being restored for that much flying, a few concessions to absolute authenticity are being made. More modern Gipsy Queen 2s will be substituted for the original Gipsy Six Rs, and constant speed propellers will replace the "one shot" Ratiers of 1934. The commemorative flight, if made, will be in easy legs, so the original 256 Imperial gallon fuel capacity will not be needed . . . thus it will be reduced to 188 gallons.

The restoration team has found the 48 year old all-wood racer to be in amazingly good condition. Despite the fact that the airplane sat out in the wet English climate from 1938 until just after World War II, and its old casein glue notwithstanding, the original primary structure is essentially intact. Experts attribute this to the fact that all de Havilland airplanes were built to the "wood screw and gimp-pin" rule — wood screws every 4 inches and pins every 1 1/4 inches in all glued components. Modern Aerodux and Aerolite glues (Ciba-Geigy) are being used in the restoration.

A major problem is the left side of the cockpit. By some quirk of fate, no drawings or even photographs exist of the left side of the cockpit. Photographers apparently focused on the right side where the huge gear retraction wheel was located — and ignored the left side.

NEW IGNITION SYSTEM

Dave Blanton is readying a Ford Escort engine for installation in a Cessna 150. It incorporates a new German-made CD ignition system that triggers off a little chip that is micro spot welded onto a tooth on the starter ring gear. A sensor triggers two separate 12 volt systems, each with its own battery, to fire a single plug in each cylinder. Dave says that FAA has told him they will now certify a single plug ignition system, if it has two independent mechanisms firing the plug.

The ignition was developed for race cars and may turn up on Ford autos in a few years. It is said to be extremely simple and trouble free.

AIRCRAFT SPRUCE ADDS ULTRALIGHTS

Aircraft Spruce and Specialty Company is adding an ultralight section to its latest catalog. Goldwing, Hummer, Nomad and Mohawk ultralights are included, along with Cuyuna and Zenoah engines, Ritz props and a complete line of parts, accessories and tools.

Aircraft Spruce already stocks most of the popular composite aircraft materials kits . . . and over 10,000 parts and pieces for about any other kind of homebuilt available today. The new cata-

log is \$4.00, applicable to any \$35.00 purchase. Write: Aircraft Spruce and Specialty Co., P.O. Box 424, Fullerton, CA 92632 . . . or phone 714/870-7551.

EPOXY SUBSTITUTE


With more and more carbon fiber being used in homebuilts, this item should be of interest. The Air Force Materials Laboratory is asking industry to develop a resin other than epoxy for use in graphite reinforced composites. The new resin would have to be solvent resistant and structurally stable at temperatures to 300°F. That might make feasible those other-than-white paint jobs a lot of builders seem to lust after.

PAUL KOLLSMAN

How many hours have you flown with the name "Kollsman" staring you in the face? That barometric pressure sensing altimeter we take for granted was one of the key elements that made instrument flying possible. Its inventor, Paul Kollsman, died at the age of 82 on September 26 in Los Angeles. He was also credited with the invention of the heated pitot and the positive compass.

RAMBLIN' IN RENO

While in Reno for the air races, **Sports-**

man Pilot visited the famed Harrah's antique auto museum to see their Ford Tri Motor . . . and, of course, the cars. The Ford was missing from its display area, but we learned it was in downtown Reno, set up on the street in front of Harrah's casino . . . just a block away from our hotel. Reno goes all out for the air races, and a stretch of main street, Virginia Avenue, was blocked off for an aviation display. The idea was to get us aviator types down there to see the airplanes, after which we could step right into one of the casinos, naturally. They never close and many have no doors. Harrah's Ford is really something — the closest thing to a brand new one you'll ever see. 

RENO



Racing biplanes — Dan Mortensen's Rutan/Amsoil Racer, foreground, and Tom Aberle's "Two Bits".



SEE
PAGE
10

Ken Love taxis in with precious cargo in the front 'pit — Matty and Elsie Laird.



HONEYMOON SPECIAL

Tuesday, November 14, 1933 — The city of Chicago was enjoying a rare stretch of Indian summer. The temperature had risen to 70 degrees that afternoon and what with all the open office windows in the downtown business section, it looked like a summer day. Everyone was in a good mood, but none more so than airplane manufacturer E. M. "Matty" Laird and his new bride, Elsie. They spent the day chatting excitedly about their honeymoon trip . . . mostly about where they were going. Unlike their groundbound friends, they had an almost boundless list of options — for they were flying Matty's personal airplane to wherever their young hearts desired. So late in the fall, their initial thoughts had been of Florida and the prospect of a week in the sun, but the unseasonably warm weather also had them talking about New York City and Washington and . . . well, wherever.

With any choice so exciting and adventurous a prospect, they finally decided to leave it to the Fates. They would flip a coin to determine whether they would opt for the bright lights of the Big Apple or flee to Florida's sunshine.

"Noo Yawk" came up a winner.

Even in the best of years, summer is just a sometime thing when you live on the shores of the Great Lakes . . . and Indian summer is little more than Mother Nature having a few pangs of remorse for what she's about to do to you for the next four months. That very night a cold front swept through the area and dropped the temperature below zero. Morning found the newlyweds struggling into bear-like flying suits and boots and fussing with their air-

plane's Wright J-5 to get it started.

The frontal passage had left the air sparkling clear . . . which lifted the Laird's spirits and swept away any thoughts of changing their minds and heading for Florida. After all, the Fates had called their tune, and choosing reason (and warmth) over romance wouldn't be very . . . well, romantic.

Besides, their airplane was so beautiful sitting there in the morning sun. Its black and gold finish — a Laird trademark — sparkled and glittered like a polished, multifaceted jewel as they walked around it, stowing their luggage and completing the pre-flight inspection. Matty had courted Elsie in this big fancy LC-B and now that they were married, it really didn't matter **where** they flew. The three of them would be together . . . that was all that **really** mattered.

Shortly, then, they were on their way, roaring out of Ashburn airport and pointing the nose right at the south shore of Lake Michigan, lying silvered and shimmering out there on the eastern horizon. Out over Chicago's storied stockyards, over Gary's blackened smokestacks, past Michigan City and inland toward South Bend . . . what a fantastic morning to start a honeymoon!

Picking up the railroad he planned to follow to Cleveland that day, Matty settled back to enjoy the ride, hunching down behind the windshield as much as possible to stay out of the icy eddies that kept tugging at his big fur collar and trying to get down his back. It was enough of a distraction to keep him from noticing the thin gray line that was beginning to appear on the horizon

ahead . . . until it had suddenly grown into a leaden wall.

When he saw it, Matty instantly knew what was in store. He was an experienced pilot . . . one of the **most** experienced of that day . . . and he had overtaken winter fronts before. That's the way it usually happened, because aviation weather forecasting was still a new and terribly inexact science in 1933.

By the time Matty and Elsie reached South Bend it was snowing . . . and by the time they crossed over the Ohio border it was snowing hard. They had been easing down lower and lower as visibility had worsened, always keeping their railroad track in view. The further they flew, the harder it snowed and soon they were down to perhaps 100 feet. The ground was white now, so snow blindness became a hazard to add to losing sight of their steel and crosstie lifeline.

On they droned. Fortunately, the very low temperature made the snow like powder, so there was no danger of it building up on the airplane. The big biplane simply sliced its way through the milky maelstrom, the faithful Wright never missing a beat.

Eventually, they reached Cleveland. Matty found the airport and set up an approach to land. The place appeared deserted, what little they could see of it, and was covered with a deep snow. He knew it was a dry snow, so he gingerly put the wheels on the runway and began his rollout. As soon as they touched, great rooster-tails of the powdery white stuff were thrown up behind the airplane, a lot of which found its way into the cockpits as they slowed

to a stop. Mercifully, taxiing was no problem and soon they rumbled up to the hangar and shut down.

"Where did you come from?" a line-man yelled as the Wright whump-whumped to a stop. "You're the first plane we've seen in three days!"

Fortunately, the weather was clear the following day and the Lairds continued their flight to New York City, landing at Newark. In fact, it was quite mild for the rest of their trip . . . down to Washington on the 20th for some sightseeing in the nation's capital; to Richmond; back northwest to Buchanan, West Virginia on the 24th; to Columbus, Ohio the following day . . . and late that evening, back home to Chicago.

This Whirlwind Laird (as they were called when new) would always occupy a special place in the Laird's memories. Not only was it their honeymoon express, but it was the airplane in which Elsie learned to fly and the one in which their children had their first flights.

It had been rolled out of the Laird shop for the first time on August 14, 1928 as NC6906, Serial Number 165 and Matty, himself, flew the 10 minute test hop. He flew it again the next day for 30 minutes — then turned it over to its new owner, E. R. Lambert of Pine Bluff, Arkansas. The LC-B flew out of Matty's life the following day and was laboring away down south during those fateful years of 1930 and 1931 when his racers, the Solution and Super Solution, were making him a living legend.

Eventually, however, ol' 6906 came back home . . . on November 1, 1932 . . . to be traded in on a new 300 hp job. It sat around for a time being used pretty much as a parts runner, check out airplane, etc., until it was beginning to get a little rough around the edges. At some point, Matty decided to refurbish it and keep it as his personal aircraft. Needless to say, it was fancied up a bit as it went through the Laird shop — a custom paint job (still black and gold, but with a more elaborate trim scheme), a racier Speedwing windshield for the rear cockpit, etc. It was a real showpiece when it emerged and was a good advertisement for his products when Matty took it out to an area aviation event. On those occasions, he often flew an aerobatic routine and even hopped a few passengers with his pet.

After wooing and winning Elsie and whisking her away on their honeymoon, the two enjoyed the LC-B until September 22, 1936 when it was sold to a local flying club composed of medical doctors . . . M. D. Flying Service, naturally. 6906 had been flown 320 hours when Matty got it back from E. R. Lambert in 1932 and had 451 hours in the logs when he sold it in 1936 — 131 hours of enjoyment by him and Elsie.

For the next 6 years the LC-B passed through a succession of Chicago area owners — B. G. DeWitt, General Air Service, Inc., Chicago School of Aeronautics, Midwest Aircraft Sales — until, finally, on November 12, 1942 it left the shores of Lake Michigan. It was purchased by Harry E. Coffie of Esther-



The Honeymooners, Elsie and Matty Laird.

ville, Iowa for use in his flight training operation. The next year, the Laird was sold to the Defense Plant Corporation of Washington, DC . . . which, if you are not familiar with the name, was the holding company to which all the civilian airplanes impressed for government service during World War II were titled. Like so many of the crash programs instituted in our nation's all-out effort to win the war, the impressing of civilian aircraft was way out of proportion to actual need. Many aircraft simply sat unused until it was obvious we would prevail over our enemies, then they were resold, often to their previous owners. Harry Coffie, for instance, had NC6906 back in a year.

In October of 1945 Elmo Maurer of Tulsa acquired the Laird and owned it until July 20 of 1964 when he sold it to Kenneth Starnes of Conway, Arkansas. Four days later, Starnes sold it to Dick Reade of Hayti, MO. By this time a basket case that had not flown for quite a few years, 6906 was stored by Reade at his Stearman restoration business (Mid-Continent) and there it appeared it would languish . . . perhaps forever.

Friday, August 20, 1982 — Antique Airplane Association Fly-In, Blakesburg, Iowa — Dick Martin's big red Howard DGA-15 has landed and is taxiing up to its tie-down spot. People are crowding in from all over the airport, causing Dick to have to shut down in front of his spot rather than kicking the tail around to line up with the other antiques parked beside him.

Everyone seems to have a camera and all of them are being focused on the Howard's cabin door. The big Pratt & Whitney chuffs to a stop and, shortly,

the door opens . . . and to thunderous applause, the popping of flash cubes and the clicking of shutters, out climb the objects of all this show biz type attention.

Matty and Elsie Laird have come to see their Honeymoon Special . . . for the first time in over 40 years!

Now 86, in good health and possessed of a phenomenal memory, Matty has never lost his love of flying and things aeronautical. Elsie, whose age we wouldn't tell you if we knew it, is the more effervescent of the two and begins to warmly greet one and all. It will be obvious to all in the hours ahead that the Laird's love for each other has endured undiminished over their years together . . . which makes it easy to understand why they have flown from their summer home in the mountains of North Carolina today to see their old airplane. (They came by airline to Des Moines and were picked up there by Dick Martin.) Their life together had begun in NC6906, so, of course, it was very special to them.

Moments later, the rumble of a radial engine is heard taxiing up behind the crowd, and as everyone turns to see it, Matty and Elsie brighten visibly. There is their old Honeymoon Special, sparkling and glittering in the sun of a beautifully clear day just as it must have that November morning in 1933 . . . 49 years ago!

Matty wastes no time in walking over to cast a knowing eye on his early day creation . . . and you just know that those glances at various fittings and into the deep recesses of the cockpits aren't merely to admire the shiny finish. *He remembers everything of a tech-*



The principal characters in the Honey-moon Special saga are, left to right, Forrest Lovley, Matty and Elsie Laird and Ken Love.

nical nature — the dimension of every tube and spar, the size of every hole. You know he is giving that beautiful restoration an even better going over than did the FAA inspector who signed it off a few days ago.

Satisfied at last, Matty joins Elsie to accommodate the hundreds of photographers who want "just one more shot" of them posing with the plane . . . and with its owner, Ken Love, and restorer, Forrest Lovley. Since it was their honeymoon airplane, everyone wants them to kiss . . . which they obviously don't mind doing at all. It's just an incredibly nostalgic and wonderful moment, and there are a lot of not-so-dry eyes to be seen in the crowd of antique airplane enthusiasts gathered around the airplane.

With the photographers temporarily at bay, Matty and Elsie step up on the right wing and begin climbing in the front cockpit. A gasp goes up from the crowd. "They're not going to ride in it . . . are they?" someone exclaims.

Of course, they are.

They didn't hesitate to pursue their dreams a half century ago when a snowstorm blocked their way . . . and they will not allow "their age" that everyone else seems to worry so much about to stop them now. They strap in, Ken Love does likewise in the rear 'pit and yells out "contact" to big Bud Duke who has been standing by to swing the gleaming Standard Steel propeller.

The Wright barks to life and in moments the Laird is climbing out of Antique Field. You can see Elsie waving to the crowd. Every hand on the airport waves back.

Matty and Elsie are enjoying a second honeymoon!

The Restoration

Ken Love bought two airplanes in 1966. One was a Fairchild 24 he still owns and flies.

A lifelong native of the Chicago area, Ken was bitten early by the flying bug. He started flying at the old Washington Park airport in 1945, mostly in Taylorcrafts. He got a little stick time in 1946 in a Stearman . . . but would not fly a biplane again for 36 years.

Always a fan of the airplanes of the 20s and 30s, Ken was attracted to Lairds because they had been produced in Chicago. He had never seen one and really didn't know that much about them . . . just that they were Chicago airplanes.

Sometime later he found there was a Laird right in the area — owned by a fellow named Gus Maross. He tried to buy it, but was turned down . . . with the admonition, "Forget it, you'll never find another Laird." Maybe it was the way Maross said it — anyway, it got Ken's back up. Right then and there, he decided he **would** find a Laird . . . somewhere, somehow.

In the fall of 1966 Ken went down to Hayti, MO to see about getting Dick Reade to rebuild a low wing Howard for him, and while nosing around in Mid-Continent's hangars, happened onto a fuselage he couldn't identify. He asked Dick about it and was told it was a Laird.

A Laird! The name was like a lightning bolt! Without knowing what model it was or even knowing the make of its missing engine, he bought the thing. Paid \$2500, in fact, and was frankly told by his friends that they were beginning to question his sanity. In 1966, prices of antique airplanes had not yet escalated out of reason, and a lot of good licensed, flying oldies were available for \$2500. No matter, Ken **wanted** that Laird. Some years later, he also **wanted** the Wright J-5 in Herb Harkcom's Fairchild FC-2 for the Laird — and paid \$1000 for it. His friends just shook their heads.

Once he had it home, Ken began to research the airplane and it was only

then that he learned what he had — Matty Laird's personal airplane! Amazingly, he was unaware that Matty was still living. Contacting the Connecticut Aviation Historical Society (which owns the Solution) for information on his LC-B, Ken was told, "Why don't you ask the man, himself? He lives in Florida." Stunned by this revelation, he wasted little time in heading south to meet the Lairds. They've exchanged visits each year since.

Now, you would think that with all this enthusiasm for Laird airplanes and the fact that he was now a good friend of the Lairds, Ken would have begun restoration of 6906 immediately. For the record, however, he **never** did. Ken, you see, is what is known as a "builder" in the auto trade. He buys new luxury cars that have been wrecked and puts the undamaged parts together to make "new" cars . . . which, I'm told, are in great demand by a small clientele that knows his work. Restoring an airplane was just too much like what he did all day, so that he was never able to bring himself to start on the LC-B.

What happened was that in 1980 — 14 years after he had bought the airplane — Ken chanced to mention to his friend, Forrest Lovley, that he had a Laird. That's all it took! Forrest has established a sort of cottage industry in the Twin Cities area that rolls out antique restorations . . . including Grand Champions . . . in incredibly short spans of time.

Ken hauled his basketcase to Minneapolis in November of 1980 . . . and jumped back out of the way as the sparks began to fly! Now, folks, here was an "airplane" that consisted of a pair of wings that were little more than

a set of fittings and some wooden patterns, half a landing gear, no engine mount, a totally unuseable horizontal tail and a fuselage of unknown integrity. Yet, the airframe was ready for a pre-cover inspection the following April!

In those five months, all the steel parts had been bead blasted and all the unique Laird aluminum fuselage longerons had been replaced. The basic frame was reassembled and all its 56 turnbuckles were carefully adjusted to align or "tune" it to perfection. A new landing gear was built using some new, still-in-their-original-factory-brown-paper-wrapping parts, some useable original parts and still more of new manufacture. A new engine mount ring was machined out of a hunk of 4130 steel a foot and a half square and 2 inches thick — took 20 hours on a lathe!

A complete set of streamlined exhaust stacks and every piece of sheet metal on the airplane were fabricated from scratch. One of the most difficult tasks was building a new aluminum frame for the rear cockpit windshield . . . especially trying because the airplane's original windshield is on a Waco in Minneapolis! Forrest tried to deal for it, but could do no better than borrow it for measurement.

The rear 'pit's instrument panel was reconstructed using many of the original instruments. Those that had to be obtained elsewhere were duplicates of the originals. Of particular interest to everyone was the Zenith Height Gauge — World War I surplus and calibrated in hectometers, one of which is 328 feet.

The seats and sidewalls were covered with leather, as the originals had been. The front seat is nicely pleated while the rear one is quite plain. "The paying passengers up front got the pleats, and the hired help got plain," Matty says with a sly grin. One of the few changes in the airframe was the omission of one of two baggage compartments aft of the rear 'pit. Matty said leave it off because it always was a temptation to cram in too much weight, which made the airplane tail heavy . . . so his advice was heeded.

All new flying wires were ordered from MacWhyte — and almost caused the airplane to miss its date with the Lairds at Blakesburg. The last 2 arrived just 2 weeks prior to its first flight.

While all this work was being accomplished by Forrest and his crew of Gary Hansen, Emory Volk, Larry Patruga . . . and others on occasions . . . the wings and horizontal tail were being built some 90 miles west of the Twin Cities in the little town of Belview, MN by Ed Sampson. An experienced wood butcher, Ed has built an award winning Fly Baby and half a dozen Pietenpols — plus wings for innumerable antique airplane projects. After a careful inspection of the old wings, it was obvious to Ed and Forrest that they were too far gone to restore. The years and some really crude "repairs" someone had inflicted on them made it mandatory that new wings be built. Ed did have a set



Ed Sampson, builder of the Laird's wings.

of drawings to go by and the fittings were in good shape.

He went right to work . . . and 480 working hours later had produced 4 new wing panels, 4 new ailerons and a new center section — fitted with its 30 gallon fuel tank! Obviously, the man knew what he was about. There were a lot of discrepancies between the original wings and the ATC drawings, but Ed rebuilt everything to the proper ATC specs. For nostalgia sake at least one piece of original wood was retained in each wing panel.

Then everything came to a screeching halt.

The torrid pace and too many projects in too few years had finally taken their toll on Forrest — and he had the good judgment to take a rest. He sent everyone home and simply took the summer and fall of 1981 off . . . starting work again in December.

In the beginning, Forrest and Ken had decided on a couple of compromises in the Laird's restoration. Both love to fly and, thus, wanted the airplane to be a useable machine in today's aviation environment. This meant a decent set of brakes and a steerable tailwheel. N3N wheels and brakes are the best available that still retain a 1920s look about them, so they were used . . . and back aft, a Scott 3200 tailwheel was bolted on. This combination would allow the airplane to be used on pavement and in reasonable crosswinds.

The other thing involved covering. Naturally, cotton and linen were used in the 20s, but Forrest and an increasingly greater number of restorers today are reasoning that manufacturers used those materials back then only because dacron was not available to them. It's frightfully expensive to cover an airplane these days, so they wanted something that would last — thus they used Ceconite 101 and butyrate dope.

The color was the next hurdle. The

early Lairds were famous for their fine finishes and their striking black and gold color schemes. The gold was the problem. What the stuff really is . . . at \$400 or \$500 per ounce, it obviously isn't REAL gold!! . . . is a bronze powder mixed in clear dope. A number of powders were tried but each time they took on a slight greenish cast as the bronze reacted with the acid in the dope. Finally, after a long and frustrating search, a powder called "Resisto" was located at Century Bronze in Chicago which would retain its color. It was sent to SIG (the model airplane people) in Montezuma, Iowa, and they mixed up the dope that Matty Laird would affirm as the right stuff when he saw it reflecting the sun at Blakesburg.

The folks at SIG also made up the Laird decals for the tail — with the correct blue border. Most of those seen today incorrectly show the borders to be green (including those on EAA's Super Solution). The reason was that Matty finished his airplanes with a couple of coats of naturally yellowish varnish to make 'em shine. Then after the sun did its thing on the yellow varnish and blue decal border — voilá, green borders!

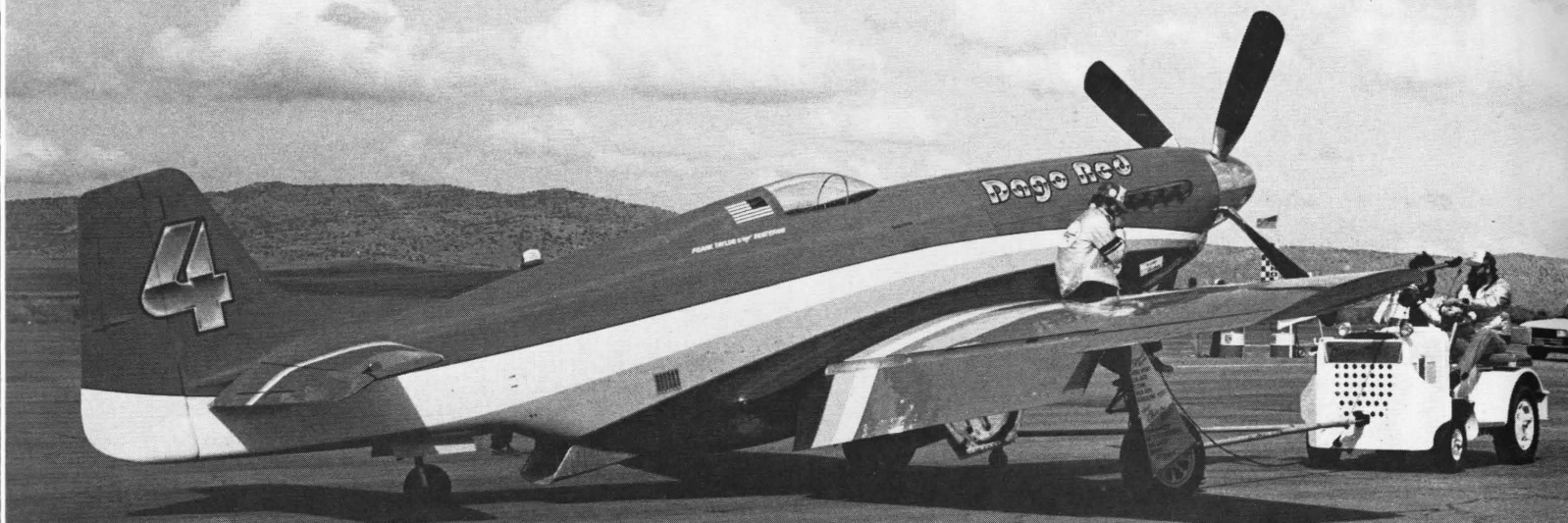
Anyhow . . . as per usual, it was a tight race to the wire to get the Laird finished and flown to Blakesburg in mid-August. NC6906 was officially flown — by Forrest — on August 13, 1982 . . . the day before the airplane's 54th birthday.

Then, it was off to Iowa.

On Saturday night, with Matty and Elsie present, Ken Love stepped forward to accept the 1982 AAA Grand Champion trophy for the LC-B. Nothing could ever top the arrival of Matty and Elsie on Friday and their flight in the airplane after so many years . . . but becoming Grand Champion was a pretty darn acceptable second!



Dago Red



Romps at Reno

Photo by Golda Cox

"Come on, Red!" the crowd screamed as the two clipped wing Mustangs swept around Pylon 8 and headed for the start/finish line and the start of Lap 1 of the Unlimited Gold race. John Crocker's "Sumthin' Else" had the lead but "Dago Red" was closing fast. Racking 'em up in vertical banks, Crocker and 'Red's pilot, Ron Hevle, pulled hard to round Pylons 1, 2 and 3 to enter the 2 mile frontstretch. Flying away from the sold-out Reno grandstands, it was difficult to visually judge the closure rate between the two racers — but as they banked to round Pylons 4, 5 and 6, there was no-o-o doubt about it — Big Ron had turned up the tap! Dago Red sailed effortlessly by Sumthin' Else and came flashing up the backstretch toward the crowd in an awesome display of raw speed and power. Rounding 8, blowing steam like a runaway locomotive, 'Red had a good lead . . . but John Crocker was hanging in there. At 440 miles per hour — more on the straights — one small slip by Hevle and Crocker would scream by him in an instant.

Laps 2 and 3 were more of the scintillating same, Dago Red and Sumthin' Else gaining half a straight away on the pack every time around. Seeing he had no chance flat out, Crocker was giving it his best shot in the turns, really pulling them tightly. As the two slashed into the first turn of Lap 4, John seemed

to have momentarily maintained the gap between himself and Hevle . . . then, suddenly, he backed off and pulled his Mustang up into a steep climb. A tell-tale stream of white smoke, the smudgy signature of a blown engine, ended Crocker's hopes for a repeat of his 1979 Reno victory, but he didn't have time for regrets . . . he had to try to dead-stick his mortally wounded, possibly burning, short-winged beast.

Spectator's with aviation band receivers listened intently to the drama so suddenly unfolding above them. Starter Bob Hoover, who circles high over each Unlimited race in anticipation of just such an emergency, was already on the horn and talking Crocker around to line up with the nearest runway. As always happens when a Merlin self-destructs, John had his tiny racing windshield splashed with oil, leaving him blind as the proverbial bat — save for a couple of little clear streaks on each side.

"O.K., John, you're lined up . . . drop your gear . . . you're over the end of the runway . . . flaps . . . you've got plenty of runway ahead of you," came Hoover's Tennessee drawl, as cool as if he did this every day.

Once down, however, even the legendary Bob Hoover could do little to help Crocker. Trying to keep a Mustang racer straight with his eyes effectively closed

was a feat only John's instinct and experience could get him through . . . in one piece. Every pilot on the airport kept in synch with body english as John swerved right, then left . . . and o-o-ohed as he ballooned off maybe 15 feet or so. Down again and on the binders, the racer's tail came up and the prop tips began chopping asphalt. Off the brakes, tail down; on them again, tail up again. Then, as disaster obviously neared, the racer vanished behind a small hill. Agonizingly anxious seconds later, great sighs of relief rose in unison as Crocker came into view again — with ol' Sumthin' Else obviously now under control. They'd both race again another day.

With the dramatics over, the crowd turned its attention back to the race . . . which was no longer much of a race. Dago Red was still smokin', but was so far ahead of the second place airplane that there was little reason to keep punishing the Merlin. Obviously backing off a bit, Hevle wisely concentrated on finishing . . . which he did at a relatively slow average of 405.092 mph. Nevertheless, the crowd cheered lustily as Dago Red took the checkered flag, the first Unlimited racer ever to win the Big Iron championship at the Reno Air Races on its very first try.

Prelude

Dago Red's only competition — John Crocker's "Sumthin' Else".



John Crocker



Down and out at Reno — last year's winner, Jeannie.



All the pylon polishin', engine blowin', deadstickin' excitement was the grand finale at Reno this year, but it was by no means the **ONLY** excitement. The Merlin manglin' had started earlier in the week during the qualifying trials — and the tension had continued to mount right on up to the national Unlimited championship event late on Sunday evening. When Bob Hoover did his seeing eye routine to get John Crocker down on the runway, he actually was on his third attempt — two of which were successful.

Reno '82 had been shaping up as a vintage year for Unlimiteds. 1981's runaway winner, a highly modified Mustang named "Jeannie" with Lockheed test pilot Skip Holm back as its pilot, was the favorite, but a bunch of really bad dudes were known to be heading for Reno, aiming to be top gun when they left town on Sunday. First, there were all sorts of rumors about the return of the homebuilt Unlimited — a lot of 'em spread right here on the pages of **SPORTSMAN PILOT**. John Parker's JP-350-1, Bill Statler and Charlie Beck's R-2800 job, John Sandberg's Tsunami and possibly others might show up to bring back the glory years of the 1930s. More likely, however, were a couple of highly modified warbirds, both of which were being called clones of already successful air race champions . . . and,

ironically, being built up only a couple of hangars apart on the Chino, CA airport. One of them was the "Budweiser Light", a F4U-1 Corsair from Ed Maloney's museum collection that his "Chino Kids" were converting to a Cook Cleland-style monster with a P&W 4360, clipped wings, cut down racing canopy, B-26 cowlings, etc. Steve Hinton, pilot — and survivor — of the ill-fated Red Baron would be the gun slinger looking to cut Jeannie down to size.

The other challenger was a classic example of that old adage, "Don't mess with success!" Bill Destefani of Bakersfield, CA was having himself a carbon copy of Jeannie built up down in Chino, powered by a red hot Rolls Royce Merlin by super wrench, himself, Mike Nixon of La Crescenta, CA. It would incorporate everything learned since World War II to make a Mustang go fast, plus a new trick or two. Ron Hevle would be the pilot and the racer's name would be, yes, Dago Red.

And, of course, no one was forgetting John Crocker. He was out there lying in the weeds with ol' Sumthin' Else, which was certainly no slouch when it came to burning up a race course. A Mustang very similar to Jeannie . . . and now, Dago Red . . . it was the racer everyone was keeping one eye on as they gee-whizzed the new airplanes. Despite their obvious poten-

tial, no new machine had ever won at Reno on its first time out. It was always some tough ol' hombre like Sumthin' Else that came through when the chips were down.

The darkest of dark horses was, indeed, a homebuilt, the Lycoming TIO-540 powered job built in 1978 by John Thompson of Tucson. It was entered in the Unlimited class as the D'Alessandris JT-SP "Pony Express" and would be flown by Howard Goddard. It was certainly fast for a homebuilt sport-plane, but could its 310 hp stand up to the red hot Merlins?

Against Jeannie and her new challengers was a field of veteran racers — mostly Mustangs, but with a sprinkling of Corsairs, Lefty Gardner's P-38, a Sea Fury and, would you believe, a Wildcat!

Qualifying Trials

At Reno, all classes of racers qualify and are paired into a series of heat races over the next three days according to their qualifying speeds. The fastest airplanes . . . or, rather, the **successful** airplanes . . . in the heat races meet in the finals or "Gold" race on Sunday for the championship in their respective category.

As in most forms of qualification trials, the cream comes to the top in short



Steve Hinton



Budweiser Light's big corncob radial, a P&W R-4360-63A, opened up for maintenance. You're looking at 28 cylinders, 4,360 cubic inches and 3,800 horsepower!



order. Dago Red topped the field with a speed of 440.565 mph; John Crocker's Sumthin' Else was second fastest at 434.259; Bill Destefani, Dago Red's owner, qualified his more or less stock Mustang "Mangia Pane" in third place at 416.015; Steve Hinton pushed his big Corsair to fourth at 413.208; Clay Klabo was fifth in his Mustang "Fat Cat" at 410.847; Dan Martin was sixth in P-51D "Ridge Runner" at 407.707 and John Dilley was seventh at 403.037 in still another Mustang, "Lou IV". The remainder of the field was below the 400 mph mark.

Howard Goddard's hopes of becoming the first post-war homebuilt Unlimited to race were dashed by a qualifying time of 263.931 mph, too slow to make the field.

But what about Jeannie, you're wondering . . . right? Alas, poor Jeannie had been Bob Hoover's first "save" of the week of racing at Reno. On Thurs-

day, her prop governor failed, the Merlin overrevved and lunched itself and pilot Skip Holm had to play blind man's bluff with Hoover to get the oil covered bird safely down — in a really slick job of stick handling, from all reports. Holm was also entered in a stock Mustang, "Shangri La", so finished out the races flying it in the slower heats. "Wait 'til next year," were his words for the week.

Heats

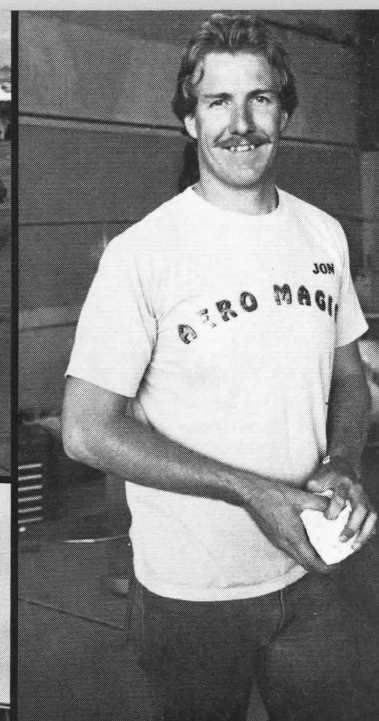
So, the stage was set for the heat race shootouts that would determine the finalists in Sunday's Gold race. As it turned out, it was strictly a two-plane duel — Ron Hevle in Dago Red vs. John Crocker in Sumthin' Else. Steve Hinton had water injection problems all weekend and thus was unable to go to the well for all the power in that big 4360 . . . and no one else was even close to Hevle and Crocker.

The two of them appeared to be playing a little game of fast lane cat and mouse on Friday and Saturday . . . feeling each other out, maybe trying to psych the other a bit and, above all, saving something for the showdown on Sunday. On Friday it was Hevle in first place at a modest 399.958 mph. Crocker hung back at 390.498. The next afternoon both of them turned up the tap a bit, with Crocker willing to risk a little more of his Merlin. He finished 6 laps around the 9.187 mile Unlimited course at 416.085 mph, with Hevle close behind at 411.939. Steve Hinton was third and was considerably faster than on Friday. Was he getting the Corsair sorted out? It had been built in just 13 weeks and was hardly broken in.

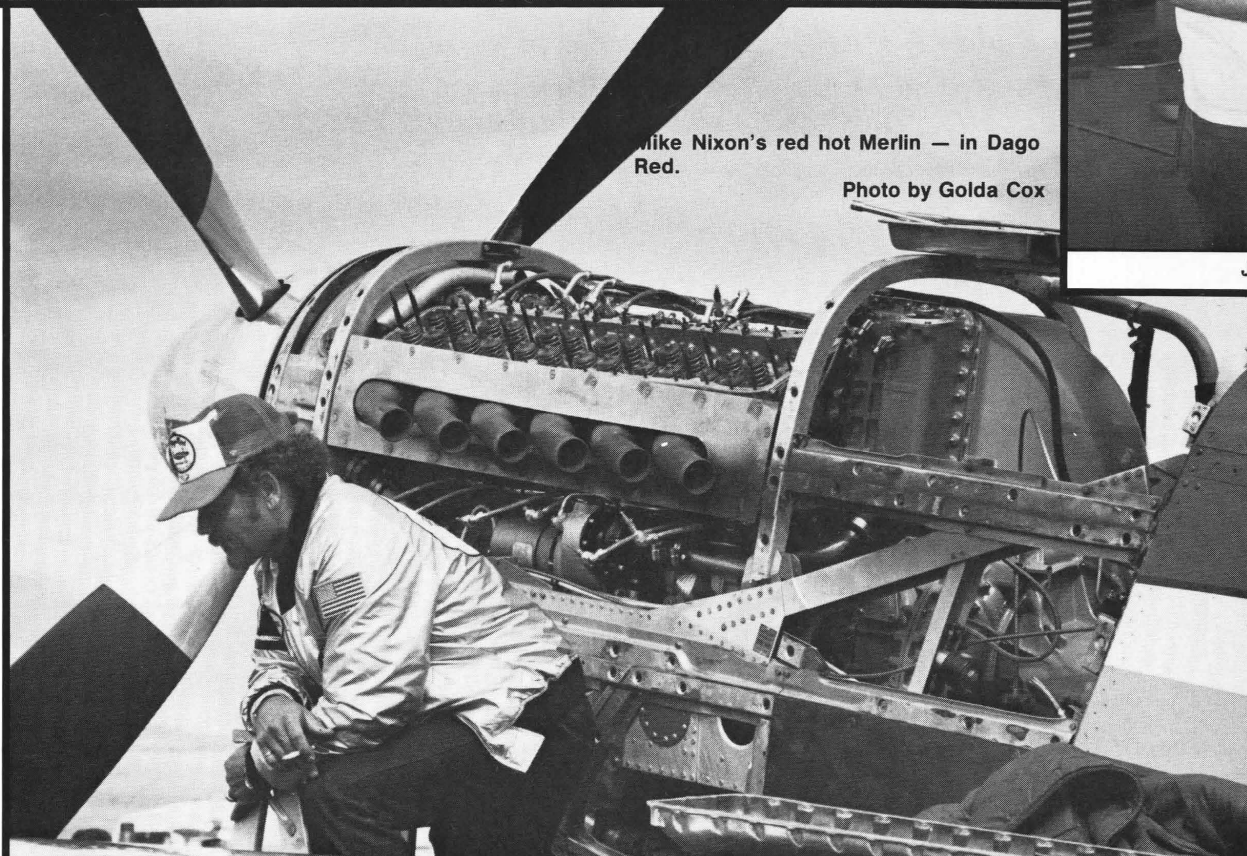
And then came Sunday evening . . . and, as you've already learned, after 4 laps, then there was one. Dago Red was the new Unlimited National Champion.



Jon Sharp's IMF/Formula I winner "Aero Magic".



Jon Sharp



Mike Nixon's red hot Merlin — in Dago Red.

Photo by Golda Cox

Let's hear it for the Eye-talian!

IMF/Formula I

According to the script, Ray Cote was supposed to come to Reno with the late Judy Wagner's Shoestring and win the IMF/Formula I championship in her memory. He even named the airplane "Judy's Turn". But, as usual, fickle Fate proved blind to human sentiment. Ray couldn't get the engine wound up in qualifying and had to start his quest for the Gold in a slow heat. He charged instantly to the front and won going away . . . only to find he had cut the first two pylons. That pretty well ended his chances, but he did win his second heat at 228.837 mph, the highest race average of the entire weekend in his category.

Meanwhile, young (31) Jon Sharp of San Marcos, Texas was working his way through the heat races in his beau-

tiful little taper wing Cassutt, "Aero Magic". On Sunday he simply outran the field, taking the checkered flag at 224.522 mph. Bill Fogg of Portland, Oregon was second in "Aloha" with a speed of 223.902 mph.

Racing Biplanes

The biplane racers have been divided into two classes, Racing Biplanes and Sport Biplanes. The former is for the likes of the Amsoil/Rutan racer, Sorceress, Sundancer, Cobra and Two Bits. In fact, just those five aircraft showed up to race. Sport Biplanes are the more or less stock homebuilts — Pitts, Mong, Knight Twister, etc.

The Racing bipes provided the most exciting finish of the entire meet. Dan Mortensen led most of the championship race in the Amsoil/Rutan racer, but Pat Hines, who had gotten off to a slow start, kept moving up in Sundancer

throughout the 6 lap event. Mortensen's ground crew was having radio transmitter problems, so were unable to warn Dan that he was being overhauled. Dan, believing he had the race won, flew a little wide around the last pylon — providing Hines with just enough room for a daring move inside that put him just feet behind Mortensen. Dan told me that evening that he was simply watching for the checkered flag when at the very last instant he realized someone had nosed out past him on the inside. From the pit area, it looked almost like a photo finish, however, the start/finish judge could see that Sundancer was ahead by a nose. Pat Hines of Canoga Park, CA was the winner at a speed of 209.401 mph. Mortensen's time was reported as 209.206 mph.

The Sport Biplane champion was hardly a surprise — Don Fairbanks of Cincinatti qualified fastest and won the Gold in his well known Knight Twister,



Pat Hines



AT-6 champion was Ralph Twombly in "Miss Behavin'".

Pat Hines' Sundancer, the Racing Bi-plane winner.



"White Knight" at a speed of 172.733 mph. He did have a couple of racers nipping at his heels, however — Bob Hugo's "Taste of Honey" and Dave Morss in his Mongster "Wildfire". There was only a 1.453 mph spread between the three. Morss, incidentally, at 27 was the youngest pilot participating in the 1982 Reno Air Races. Several of the others were old enough to be his **grandfather!** Ten pilots, in fact, were 60 or older and a **WHOLE BUNCH** were in their 50s.

AT-6/SNJ

The T-6 drivers were a fun bunch. Most of them appeared to have brought their entire families and half the kids on their blocks as "crew". What they really had were wildly enthusiastic cheering sections. Every pass — even the last place airplane passing the next-to-last one had the crews screaming with delight. It was almost as much fun watching them as the airplanes! Any-

way, when the cheering finally subsided, the T-6 winner was Ralph Twombly of Wellsville, NY in Number 44, "Miss Behavin'". His speed was 218.255 mph. A couple of miles per hour back was Dick Sykes of Toluca Lake, CA in "Two Five Charlie".

Observations

Reno '82 was fun to attend. You have to get a pit pass to really see the racers and know what's going on, so budget for that if you attend in the future. The weather was cool all weekend and there was an ever present threat of showers. Every race and air show act was flown, nevertheless — although on Sunday morning, a Sport Biplane and a Formula 1 race were run in rain. The Formula 1's, in particular, were coughing and spitting carb ice and a lot of paint was beaten off leading edges, but everyone managed to finish.

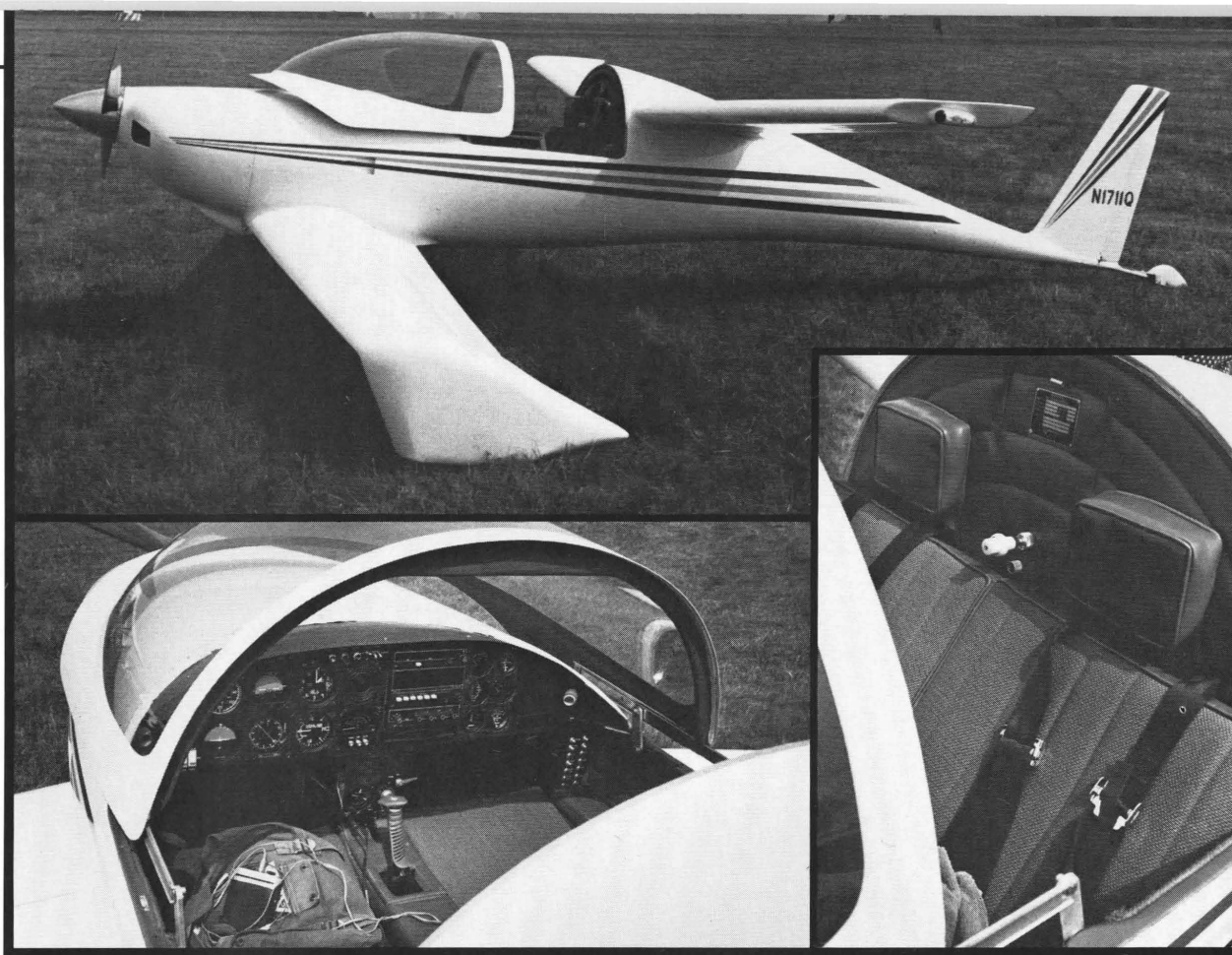
It was a relatively safe event, with the most serious accident happening to

Unlimited racer Dan Martin of San Jose, CA. He came screaming around the first lap of his heat race gloriously out in front of the pack . . . only to have his Mustang's engine go KA-CHUFF directly in front of the grandstand! He pulled up and quickly had Bob Hoover directing him back to the runway — but landed short. The gear was sheared off and it got the prop, of course, but, fortunately, Dan suffered only minor bumps and bruises.

With the '82 event in the record books, race fans and participants alike are looking ahead to Reno '83. "Who can beat Dago Red?" is the question in everyone's mind. The airplane was built in about 10 months and wasn't ready to fly until August 23. It didn't arrive in Reno until September 13 and was racing with only 10 hours on the engine. With a little development time, it will just go faster.

It's gonna be a tough act to follow . . . and tougher still to beat!





FULL HOUSE Q2

After being on the market for a couple of years now, Q2's are beginning to emerge from homebuilders' workshops with increasing regularity. The one you see pictured here was a sensation at Oshkosh this summer, evoking a "Can you believe that!" from everyone who stuck his head in its cockpit. What they saw **was** a little hard to believe — an IFR certified panel including such big buck goodies as RNAV, HSI and a Ryan Stormscope! Built by Duane L. Swing of Vandalia, Ohio and his son, Scott, N17HQ also got a lot of favorable comment on its fine finish, bright red upholstery and forward sliding canopy.

We saw the airplane again in September at the Mid East Regional Fly-In at Marion, Ohio. Scott Swing had just flown it in and before he tied it down, we asked to take some pictures. Even through the viewfinder, it was apparent that a lot of work had been accomplished since Oshkosh.

"Since Oshkosh I sanded the entire airframe with 1200 grit sandpaper," Scott later told me. "Except for the canard. We actually sanded it all the way down to the primer to get out all the surface imperfections. Then after all the sanding and refinishing of the canard, the airplane was polished out again with rubbing compound, glaze and wax.

"We also faired in the exhaust and put a landing light in the cowl."

What I was really curious about, how-

ever, was a vernier control knob mounted, curiously enough, on the rear cockpit bulkhead, right between the headrests.

"That's the reflexer," Scott volunteered.

"The reflexer?"

"Yes, it lets us raise (or reflex) the ailerons on the rear wing to trim out the airplane's tendency to pitch nose down when we get a lot of bugs or when we fly through rain. Before we installed the reflexer, if I got in hard rain — like I did flying to Oshkosh — I would be back to full aft stick, full power and down to 80 or 90 mph. Now we can get the tail down and fly in rain with the elevators in trail. It also helps get the tail down for landing."

I was aware of the pitch down tendency of many of the new generation of canards when flying into rain, but I also wondered about the CG on this particular Q2 and its panel full of IFR goodies. Scott confirmed it was toward the forward limit and that since Oshkosh, the battery had been moved "back as far as it will go" to compensate. It would appear that in this case, the pitch down previously experienced was due to the known tendency of the canard to do so when its natural laminar flow is tripped, but probably aggravated by the forward CG.

Quickie Aircraft has a reflexer available, but Duane and Scott built their own, utilizing the vernier control. They

also installed an aileron trim system at the same time.

The Swings bought their Q2 kit at Oshkosh in 1981. Work commenced in September and they had it ready to fly in 8½ months. It's powered by the Rev-master 2100DQ that's rated at 64 hp. Scott says it cruises at 175 mph at a density altitude of 10,000 feet and will top out at just over 180. When originally weighed, it tipped the scales at 587 pounds, but with the installation of the upholstery, landing light, etc., it currently is up to 615 pounds.

Duane is an experienced pilot and normally is found behind the wheel of his Twin Comanche. Scott is a relatively new pilot, so I was curious about his experience before soloing the Q2.

"I had a total of 55 hours in a Cessna 150 and 3 hours in a Citabria before soloing the Q2. It's not hard to fly, but it's like any taildragger — it will get away from you if you don't watch it."

Scott is a graduate student and is having to hit the books this winter, but has done most of the flying of 1711Q to date, including a couple of long cross countries. He really likes the airplane, but is looking for still more performance. A Warnke "Almost Constant Speed" prop was on order when we talked in September and who knows what else is in the works.

It's the Rolls Royce of Q2s now.



Gee Bee

Model Y Replica A'Building



If you are a fan of the Gee Bee racers and sportplanes, you should plan now to be at Oshkosh in 1984. That's the target date for the debut of a full scale replica of a Gee Bee Model Y. The Model Y was a two-place, tandem, open cockpit job with provision for sealing off the front 'pit for racing. Only two were built, NR11049 and NR718Y. The first one, 11049, was quite successful when flown in races with comparably powered aircraft and even picked up some much needed cash for the Granville brothers by competing in the 1931 Thompson Trophy race — as a back marker to the winning Gee Bee Z.

718Y was built in 1931 for E. L. Cord's Lycoming Division as a flying test bed for the Lycoming R-680 radial engine. It was later bought by Art Knapp and refitted with a 450 hp Wright Whirlwind. It came to an unfortunate end in the 1933 Chicago Air Races when fabric tore off one wing and it crashed, taking the life of pilot Florence Klingensmith.

It is this latter airplane in its original configuration, the Lycoming R-680 powered 718Y, that is being reincarnated. The number 718Y is not available from FAA, so 718L will be used instead — with the NR prefix on the wings.

The builder will be a surprise to many of you. Ken Flaglor . . . yes, the designer of the VW powered Flaglor Scooter and a noted proponent of powered sailplanes in years gone by . . . is the man who will soon be roaring around

behind the big 300 horsepower radial that will fit inside the bump cowl you see in the accompanying pictures. This is not as much of a change in character for Ken as you might think. Before his Scooter days, he used to roar around the upper mid-west in a Waco UPF-7 and one of his early projects was a big engined Fleet built to tow gliders . . . so, he's no stranger to round engines.

Ken has always harbored the desire to build a full sized replica of one of the Golden Age aircraft he grew up making models of. It would have to be something out of the ordinary . . . "Something with a little pizzaz," as he puts it. But of equal importance, it would have to be two-place so he could take friends for rides. Not interested in producing a museum piece, Ken's airplane would be built to fly and, as a result, would incorporate, from the start, amenities such as good brakes and positive tailwheel steering. After toting up all his likes and dislikes, Ken decided the Gee Bee Y was his airplane . . . and began work on it 5½ years ago. The owner of a glass business (reglazing, storm windows, Thermopanes, etc.) that is somewhat seasonal in nature, Ken can only work on airplanes during the winter months, so those 5½ years actually only represent about 20-22 months of normal, part time building . . . which makes the amount of progress you see in the accompanying pictures all the more impressive.

The project was not one jumped into

with abandon. Even after deciding on the Model Y and doing exhaustive research on it, Ken still was not certain if his business responsibilities would leave time to build an airplane. He actually built a Sonerai just to find out!

The answer was yes.

By this time he had already overcome what was potentially the toughest hurdle of the entire project. There is very little info on the Model Y and no drawings Ken is aware of. He spent a considerable amount of time collecting pictures, 3-views, etc., not only on the Y, but also the Model Ws and Xs that preceded it — on the theory that the Y would be a natural progression from the earlier aircraft as far as structure, systems, components such as landing gears, control systems, etc. were concerned. Fortunately, some drawings of the single seaters did turn up and from them he was able to extrapolate what he believes to be a pretty close approximation of what the two original Ys were like. A lot of the old literature on the Y describes it as a "20% larger Sportster, with room for an extra cockpit". Significantly, the Ys were called Senior Sportsters by the Granvilles — which is certainly indicative of the lineage — but no one refers to them as such today.

As can easily be seen in the pictures, the Model Y is a typical early 30s airplane — tube and rag fuselage and tail surfaces, strut and wire braced wood wing, also fabric covered. All well with-

in the capability of today's homebuilder.

Ken started with the fuselage and it went easily enough until he got around to the horizontal stabilizer. He knew from his research that it hinged on the **front** spar, pivoting the rear half, including the elevator, up and down for trim. Problem was, he had no idea what the mechanism to drive it was like. Several systems were considered and one was actually built . . . but then while visiting with Gar Williams, the solution presented itself. Gar was restoring his soon-to-be Grand Champion Cessna AW and much to Ken's surprise, it incorporated a trim mechanism very similar to what he knew must have been in the Model Ys. Taking a bunch of measurements, he returned to his shop and found to his further surprise that the AW system would fit into the Y as if it had been made for it. Needless to say, a copy was fabricated and installed . . . and it works beautifully. Ken is convinced that the Granvilles did exactly the same thing in 1931 — simply copied a good existing mechanism . . . or maybe even used one off a wrecked AW.

Ken believes his wings are completely authentic. All the Gee Bee wings for which there are pictures of the structure are very much alike. So, he simply built a set of "typically Gee Bee" wings that will span 30 feet instead of the 25 feet of the earlier single placers.

"Why would the Granville brothers have done things any differently?", Ken asks with irrefutable logic.

The "knee action" main gear legs have some interesting components. The

shock struts are spring/oleo units that originally soldiered as tailwheel struts on a couple of World War II Waco CG-4A troop carrying gliders. The locking tailwheel is spring mounted and will be fitted with a little wheel pant. The main wheel pants (and the bump cowl-ing) are among the few things Ken has farmed out to someone else. Al Abrams, a member of his EAA Chapter, is an experienced and expert fiberglass man, so Ken enlisted his aid. The wheel pants are perfect teardrops, so only one mold had to be made for the 4 halves needed. The wheels, themselves, were liberated from a Tri-Pacer and are fitted with 8:50x10 tires.

The engine will be a Lycoming R-680-13 (300 hp) driving a 2B20 constant speed prop with -9 blades. "I took out an E-80 direct drive starter and paid the price of 17 pounds of extra weight to have the schmaltz of an electric inertial starter," Ken chuckles. "That should add to the fun of starting it up." The battery is mounted back near the tail to counter the weight of the CS prop, full electrical system, etc., up front.

A recent addition — and one which allowed Ken to assemble the airplane for the accompanying pictures, was the flying wires. They are unusually long and were questioned by MacWhyte when ordered. They understood, however, when told they were for a Gee Bee. The wires (or "tie rods" as MacWhyte calls them) between the gear legs are 7/16" wide, the front flying wires are 3/8" and the top landing wires are 5/16".

"An interesting thing about an air-

plane like this is that we think we use wires because they are light — but I weigh everything, and all the wires, forks, clevises and pins weigh 34 pounds," Ken says.

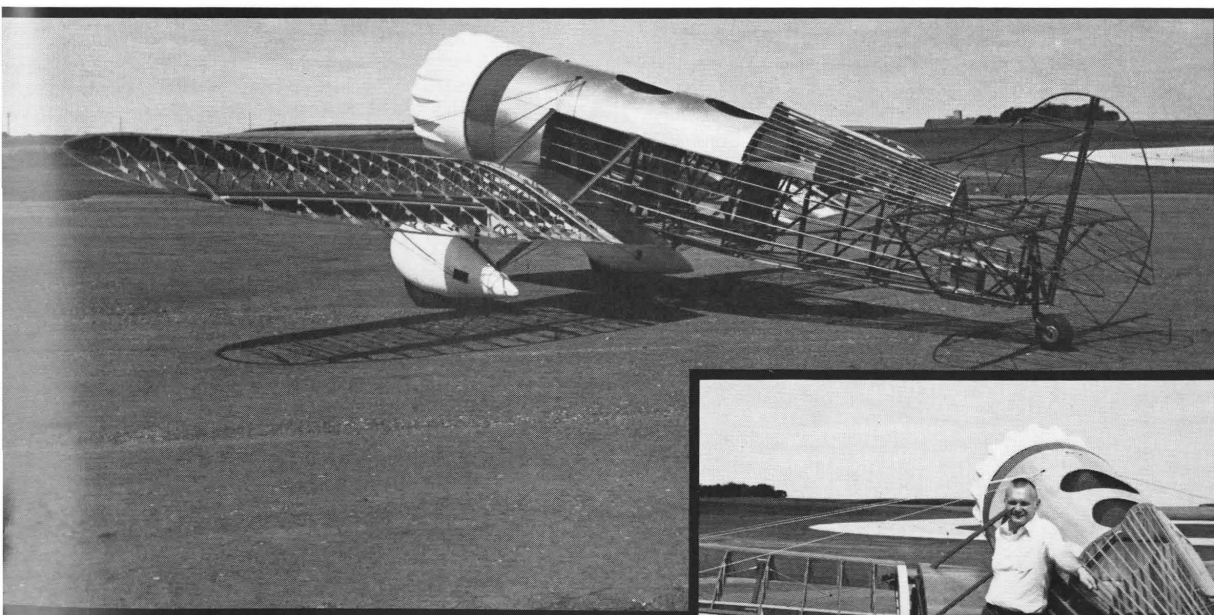
Ken plans to cover his Gee Bee with Dacron and will paint it in the same red and cream scalloped paint scheme NR718Y had in 1931.

What does he expect in the way of performance? "It should cruise around 155 mph and, flat out, should indicate 185," Ken says. "It should really climb — as much as 3,000 fpm, initially." The structure is designed to handle 6 Gs at 2200 pounds, 4 Gs at 2350, which will be max gross. He is shooting for an empty weight of 1700 pounds. The big 42 gallon fuselage fuel tank will provide a duration of 2 hours, enough, Ken says, for the type of flying he wants to do.

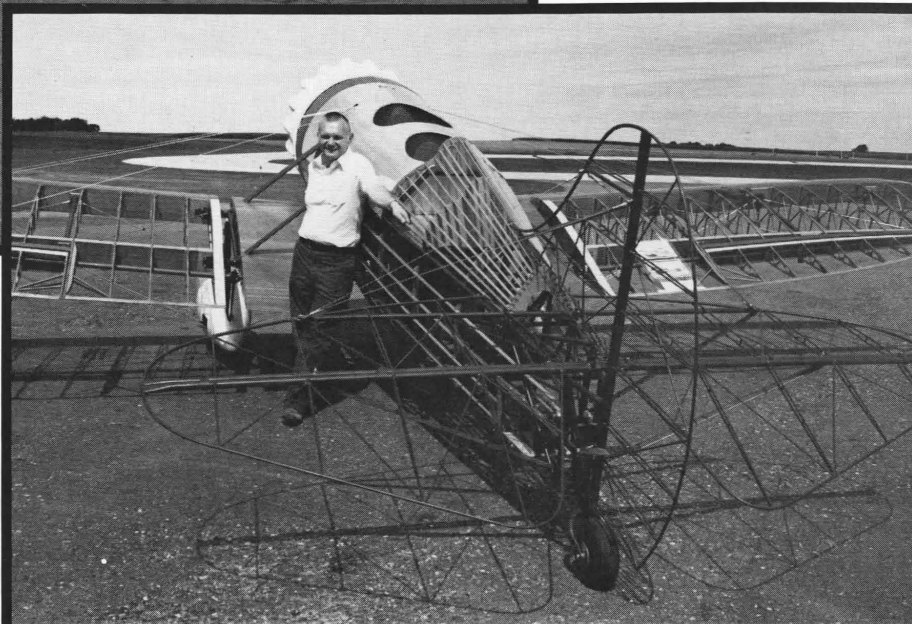
Ken, who lives in Northbrook, Illinois (the north side of Chicago), flies out of the Kenosha, Wisconsin Municipal Airport where he and a friend have a nice big hangar and tie down area.

He had the Gee Bee erected there recently and we were pleased to have the opportunity to photograph it before it goes back home for another winter's work. It will be covered when we next see it and it would have been a shame for Ken's excellent workmanship to have been covered up without some photographic documentation.

This thing is really going to be something to see . . . remember, Oshkosh '84. I hope to be first in line to drool all over it!



Ken Flaglor and his Gee Bee Model Y.



Mike Fisher's FP-101



One of the persistent complaints about the current crop of ultralights is price. It is said that one can cost out a typical aluminum tube and dacron job, part by part, and the total will be less than a thousand bucks . . . yet, they sell at anywhere from four to six grand, on the average.

Another gripe is that they are odd balls — strange configurations; with odd, non-standard control systems, including ground steering, and, consequently, are of limited use because they can't handle a crosswind.

Well, Mike Fisher of South Webster, OH appears to have solved most of those problems in one fell swoop with his new FP-101. It looks like a "real airplane", has conventional 3 axes controls and, get this, will sell as a you-build-it kit, with the largest engine option, for less than \$3,000! With a smaller engine, you can buy one for \$2500 and if you already have an engine, the airframe kit is only \$1750.

That ought to rattle some cages!

The key to the FP-101's low cost is its geodetic construction . . . for which Mike gives full credit to Gerry Ritz, the well known prop maker from Wartrace, TN. Gerry has a geodetic design of his own he's about ready to spring on the market and it, too, will knock the bottom right out of current ultralight pricing. Mike spent a month this past spring working with Gerry to learn the basics of geodetic construction. It's nothing new, of course, having been used over the years on all sorts of airplanes — even World War II bombers. The concept is simple — you design a basic structure that is a sort of lattice work of thin strips of material, so arranged that each piece carries its share of the

structural load **in tension**. Another way to look at it is that all those little strips are load paths that spread out the load all over the structure, rather than concentrating it at a few strong points. Whatever non-mathematical explanation you come up with, it results in one of the lightest, strongest and, proponents stoutly claim, easiest-to-build airframes possible. It doesn't **look** that simple, but everyone who has built one says it is.

Every part of the FP-101, except the landing gear and engine mount, is geodetic — the wings, fuselage and tail surfaces. They are built up out of strips of Northwestern White Pine, glued together with T-88 epoxy glue. The accompanying photograph, shot down the inside of the fuselage aft of the pilot's seat, shows the lattice pattern.

Even the wing spar is geodetic. It is a bridge type truss consisting of a top and bottom cap or boom of 3/4" x 1" pine with uprights every 12". Cross bracing in the shape of an X extends between uprights. The ribs, one of which you see Mike holding, are glued to the spar and the cross-lathing you can see through the fabric in the pictures is applied. The result is a wing that Mike says two men, one at each end, can grasp and try as they may, cannot twist more than about an inch. Try that with, say, a Cub wing!

There is a secondary or "false" spar to which the aileron attaches, but most of the wing's loading is absorbed by the main spar. The airfoil is an ancient German Goettingen section designed for use on low speed tow line gliders. Its virtue is a very short center of pressure travel, which allows the use of a single main spar at 23% of chord.

The landing gear and wing struts are of aluminum tube and will come in the kit completely bent, formed, drilled and ready to bolt on your airframe. The axle is a weldment . . . as is the engine mount . . . but the torch work has already been done for you. The main gear mounts wheel barrow wheels, available from Sears for about \$24.00! There are no brakes on the prototype, but may be added for the kits. The tailwheel is steerable.

All the wood in the kit is pre-sized, pre-slotted and, where necessary, pre-shaped. All the builder has to do is cut the pieces to proper length and glue them together.

The prototype of the FP-101 (pictured here) was initially powered with a single cylinder, belt-reduced Zenoah, rated at 22 hp. It flew the airplane quite well, but to provide builders who live in places higher and hotter than Ohio a little extra margin of performance, the switch has been made to a 30 hp Zenoah 290, a 2-cylinder engine with a 2 to 1 belt reduction unit. There is no great increase in speed with the big engine, Mike says, but take-off and climb are significantly improved.

Mike made the initial flight of his FP-101 shortly before Oshkosh this summer and it flies regularly now. On grass, the little bird lifts off in about 100 feet at 17-18 mph. On pavement, it'll get off in 75 feet.

Cruise is 40-45 and wide open, the 101 will wind out to about 50 or so. There's nothing special to say about the airplane's flight characteristics, Mike says. It flies about the way it looks — like a slow Cub or Aeronca.

It's very easy to land, he says, with plenty of control for crosswinds. Mike

likes to wheel it on, simply because it is so easy to do.

The FP-101 is a small airplane in some respects and not so small in others. The little fuselage is only 16' 6" long, but atop it sits a relatively enormous wing — 35 feet in span. That's the span of a full size Cub. Low wing loading is the name of the game with these lightweight, low powered airplanes — so you have to have a big wing.

When Mike began building this airplane last spring, the FAA had not yet released its ultralight regs — so, the FP-101 was slated to be a homebuilt, a very light airplane that would have to have an N-number and be flown by a licensed pilot. However, when FAA told the world what it would require of ultralights at Oshkosh this past summer, Mike, like everyone else, was surprised to learn the allowable empty weight would be 254 pounds. Even with a 9 pound American Yankee seat, easily replaceable with lightweight cushions, the

FP-101 weighs just 245 pounds. Its stall and cruise speeds are also lower than the FAA numbers, so, lo and behold, Mike found he had an "ultralight" on his hands. Since there is no question about the 51% rule on this glue and stick job, the builder will have the option of licensing his FP-101 as a homebuilt or forgetting the paperwork and calling it an ultralight.

The FP-101 is Mike Fisher's fifth ultralight. After a powered hang glider project, he progressed to the Fisher Flyer (a biplane), the Boomerang (high wing) and the biplane Barnstormer before beginning the 101. Wicks sells kits for the Boomerang and Barnstormer, but Mike will market the 101 kits himself. For further information contact: Mike Fisher, Fisher Flying Products, Rt. 2, South Webster, OH 45682.

Everyone seems to see a different airplane when they look at the FP-101 — some see a little Cub, others a tiny Champ, etc. I think the nose and land-

ing gear look like those on an Aeronca Defender. I asked Mike about his opinion and learned that the styling came from Wayne Ison of PDQ fame. Wayne also works with Gerry Ritz on occasion and was there when Mike was last spring. Wayne does a lot of doodling and one day Mike began leafing through a stack of 25 to 30 "designs". He pulled out 2 or 3 he liked and was told by Wayne they were his for the taking.

"If I do, I'll probably build 'em," Mike responded.

"Go right ahead," he was told . . . and so he did.

So, as your editor has been predicting since John Moody began hopscotching into the air with his powered Icarus II, little AIRPLANES are finally beginning to move into the "ultralight" picture.

Chalk up the Fisher FP-101 in that column.



Mike Fisher and an FP-101 wing rib . . . at Marion, Ohio.



Geodetic construction of FP-101's aft fuselage.



Zippy Sport



Still another exercise in lightweight airplane design and development is the Zippy Sport by Ed Fisher of Perry, Ohio — no relation to Mike Fisher, about whom you can also read in this issue. Those of you who read the Spring 1982 issue of SPORTSMAN PILOT will recall that in our treatise on ultralights we anticipated the development of every conceivable level of performance and aerodynamic sophistication between the current state of the art of ultralights and homebuilts. Every fly-in we've attended since that was written bears this out — in the form of new designs.

This is one of the most significant happenings aviation has ever experienced. One of the greatest deterrents to more people learning to fly and owning airplanes is simply the height of the first step. It is too expensive and too complicated for the "average person" to get started. Now, with ultralights, very light airplanes and homebuilts as initial "steps" to the more sophisticated levels of flying, a far greater number of people can participate. There are a multitude of small initial steps in place today — and new ones are being created all the time.

For instance . . . let's say a pilot wants one of these new inexpensive sportplanes, but wants a little more performance than say, Mike Fisher's FP-101. After investigating his options, he might well be interested in Ed Fisher's Zippy. It weighs about 100 pounds more and will land and cruise at about twice the speed of the FP-101.

It will be able to handle a little more wind and the ride in turbulence will be more comfortable. On the other hand, it will cost more, be a little more complicated to build, won't be able to operate off fields as small as the FP-101

and it will come down faster if you have an engine failure or run it out of gas.

You pay your money, and you choose your own set of compromises — according to your own needs and desires. That's what is so great about the tremendous number of new designs — you have options coming out your ears!

Zippy is certain to appeal to homebuilders who have been in the game a while. Its construction is what can only be described today as "traditional" — welded steel tube fuselage and tail, built-up wood wing with sheet metal leading edge . . . and with doped fabric covering all of it. Pitts Specials are built that way, Cubs, Champs and Taylorcraft were built that way, Staggerwing Beeches were built that way . . . and there's every likelihood that **some** airplanes will **always** be built that way. It's tried and true as far as its choice as a building method is concerned . . . again, you pay your money, etc., etc.

Remember, when it's your hobby, there are no inherently good ways or bad ways to build an airplane . . . it's simply a matter of what YOU enjoy doing. That's what REALLY counts.

Zippy was conceived several years ago by Ed as a lightweight, folding wing, trailerable, low horsepower airplane. His dad, Ed H., who has built a number of homebuilts himself, once drew up a design that he never got around to building that was called Zippy. Ed took the name for his project. After the preliminary lines were on paper, an aeronautical engineer, Alan Baker, did a stress analysis and pointed out the things that would have to be done to make the airplane a 6 G + or - machine. All that incorporated in the plans, Ed began cutting metal in mid 1979. Within a little

over a week the fuselage had been finish welded . . . and then it was put on the shelf for the next couple of years while he started his own custom aircraft building/restoration business.

Work didn't resume on Zippy, in fact, until June of this year. It was completed . . . but not flown . . . in time to take to Oshkosh '82 for display beside the **Western Flyer/Ultralight Flyer** Design Competition tent. Zippy is entered in the contest in the ARV category.

At Oshkosh, it was fitted with an 18 hp Onan that Ed converted himself. He bought the basic engine from a local garden tractor dealer and modified it to drive a prop. After getting back home, attempts were made to fly, but the Onan just didn't have the power to make it possible. Subsequent to Oshkosh and before the MERFI Fly-In where we obtained the information and pictures for this article, Ed had pulled out the Onan and had substituted a two cylinder Cuyuna 430 fitted with one of Ultra Tech's new planetary gear reduction units. It was finished up just in time to fly once in ground effect . . . and to learn that a completely different prop would be required . . . before bringing it to Marion. It's not that Ed is having trouble getting the airplane going — after all, it's really only been under development since June — it's a matter of the fly-ins at which he planned to show it coming up too fast.

The wing that's currently on the airplane has a 64215 airfoil which, Ed acknowledges, is not the best choice for a low speed airplane. He will fly it with this one, but may build a new wing with a 4412 or 2412 if the bottom end numbers don't meet his expectations.

The wing structure consists of a 3/4" x 7" solid spruce main spar and a 2" x 1" rear spar, plywood band sawed ribs and an aluminum sheet leading edge. The spars are laced with the usual drag and antdrag bracing and the tip bows are bent up out of steel tube.

The drawings for Zippy show a folding mechanism for the wings, but it is not installed on the prototype— another concession in the interests of getting the airplane to Oshkosh this past summer. It will be installed this winter.

The landing gear is a flat aluminum spring 1/2" thick and 4" wide at its fuselage mounting point. It tapers down to about 2" wide at the axle. Azuza go-kart wheels and brakes (3:50x5) are used and are streamlined with vacuum formed ABS plastic wheel pants of Ed's own design. He carved a pine mold and had a local plastic molding shop pop out the pants for him.

The fuel tank is located in the cabin

just ahead of the instrument panel. It was welded up out of .030 aluminum sheet and holds 5.5 gallons. There's a built-in sump that holds a quart, and a simple shut-off valve is fitted in the line that extends forward through the firewall to the gascolator. A visual sight gauge loops down over the face of the instrument panel.

A center mounted stick actuates the ailerons and elevator via push/pull tubes and an adjustable rudder bar wags the rudder through 3/32" cables. Heel brakes are mounted on the rudder bar.

The Zippy prototype was covered with 1.7 dacron fabric, heat shrunk and after a conventional dac proofer/dope build up, was finished with blue DuPont Centauri acrylic enamel, **without** catalyst.

Zippy has a span of 24' 8" and a chord of 47". Wing area is 98 square feet. Length with the new Cuyuna is 17' 8". Certain to be popular is the generous cabin width — 24" . . . and with plenty of head and leg room for a nor-

mally proportioned 6' 5" pilot.

Performance figures have been calculated — but with the recent engine change, altered weights, etc., it will be best to wait until flight tests have been completed to see what they will now be. With the 64 series wing and the 430 Cuyuna, Zippy is expected to be a 100 mph airplane, maybe a little more . . . but, again, let's wait and see.

A lot of people who saw Zippy at Oshkosh and Marion thought it looked like a scaled down, single place Tailwind. Ed considers this to be quite flattering because like so many of us, he is a great admirer of Steve Wittman. By about Sun 'N Fun time, he hopes to also have some of that legendary Wittman zip in Zippy.

Watch for it.

(For further information contact: Ed Fisher, 4356 Narrows Rd., Perry, OH 44081.)



Ed Fisher in his Zippy Sport.

With the Cuyuna sticking out through its cowl, Zippy looks like a giant model airplane.

In Retrospect ... Piper Cub Coupe



When lightplane manufacturers C. G. Taylor and William T. Piper went their separate ways in 1935, it was Piper who ended up with their company and its already famous product, the Cub.

With the Depression finally beginning to loosen its grip on the nation, the Cub had begun to sell and would lead the lightplane market right on down to the start of World War II. Before the decade was over, however, Piper Aircraft management would, to use that well-worn sports cliché, begin to hear footsteps behind them. The loudest would be those of none other than C. G. Taylor, himself. He had started a new company and had designed a new airplane — a very efficient little side-by-side job, the Taylorcraft, that was an overnight sensation. Finding the money to keep expanding in order to fill orders would, in fact, be C. G.'s continuing and most frustrating problem.

In the late 30s a number of side-by-siders were coming on strong. Besides the Taylorcraft, Aeronca had introduced its Chief and Don Luscombe had announced an all metal job, his Model 8. All were selling well. The thing was, people just plain liked side-by-side seating better than a tandem arrangement . . . and adding insult to the Cub's injury was the fact that, with the same engine, its competitors were a good ten miles per hour faster — the Luscombe even more.

The troops back in Lock Haven were

beginning to get a little concerned — all, that is, except the head man, W. T. Piper. He was a pragmatist of the first water and knew from long and hard experience that, unlike automobiles, you didn't sell new trainers to private owners. New ones went mainly to FBOs for instruction and did not get into private hands until sold as used airplanes. There were exceptions to this unwritten rule, of course, but that was the nature of by far the greater part of the new plane business. He wasn't concerned about these new side-by-siders, because they seemed to him to smack of private ownership . . . and that wasn't where the money was.

Piper's staff, however, wasn't so certain.

Piper Aircraft, as it had been reorganized after the Piper/Taylor split up, a disastrous fire and a move from Bradford, PA to a vacant silk mill in Lock Haven, was a pretty informal operation by most standards. Underselling its competition was the foundation upon which the company had been built, and one of the key elements in doing so was low wages. Piper was able to gather around him a loyal, competent work force by shrewdly offering compensations other than cash. Employees could, for instance, take flying lessons in company airplanes for a dollar per hour — and could walk out the door to the airport right outside the factory for a lesson more or less at will, as long as they made up the time later. With this

sort of easy going atmosphere, the employees tended to be young and air-minded . . . willing to work for peanuts in order to be around airplanes and to get to learn to fly. Reminiscent of Japanese workers today, they felt they were a part of a team and had a responsibility to make it successful.

Thus it was that an employee, Hanford Eckman, the company production supervisor, took it upon himself to meet the challenge of the onrushing side-by-siders. He built up what apparently was a full size wooden mock-up of a side-by-side airplane and soon had William T., himself, trying it on for size. Piper was a large man and, as the story goes, told Eckman to raise the roof to provide more headroom.

"If we're going to do this, let's have some comfort," was what we must assume to have been Piper's implied consent to go ahead with the project.

The result was the Piper J-4 Cub Coupe, introduced to the public at the 1938 National Air Races in Cleveland and certified (ATC 703) by the CAA on October 26, 1938.

The Coupe was roomy (the cabin was 42 inches wide at the seat), it had nice lines and handled as easily as the tandem Cub . . . but, alas, it was **slow**. That big fat USA 35B airfoil and tall fuselage were just too much to ask the airplane's original 50 hp engine to drag through the air. With a cruise of 83 mph, the Coupe was only marginally faster than a 50 hp Cub, which Piper

claimed would do 80.

This was a serious marketing problem. The arch rival Taylorcraft would cruise at 91 mph, an Aeronca KCA would do 90 and the new all-metal Luscombe cruised at a solid 94 mph. This was with all four airplanes fitted with the same Continental A-50, rated at 50 hp at 1900 rpm. How could you go into the marketplace with a cruise 7 to 11 mph slower than your competitors?

With goodies . . . that's how.

Taking a page from the auto manufacturers, Piper decided to load the Coupe with what were extra cost options on competitor's airplanes and do it at no charge. Touted in Piper ads as the lightplane in which one got "everything from soup to nuts", the Coupe's standard equipment list included hydraulic brakes, battery powered navigation lights, carb and cabin heat, fire extinguisher, first aid kit, wheel pants, airspeed indicator and compass, spinner, floor mat, fuel gauge, cloth and leather upholstery, a hand rubbed finish and, oddly enough, seat belts. (Could you buy airplanes **without** seat belts then?) There were still more options, but they had to be purchased — radio, wind driven generator, auxiliary tank, Freedman-Burnham ground adjustable prop, Edo 1140 floats (\$695 in 1938!), corrosion protection, etc. If you wanted a "full house" Coupe, you could end up with quite a luxurious little airplane . . . slow but luxurious.

Did it work? Well, in retrospect, it's hard to say. With the stormclouds of war blowing in, the U.S. government began a civilian pilot training program in 1939 and, shortly, almost all of the lightplane manufacturers were cranking out as many airplanes as their facilities permitted. College campuses across the land were turned into ground schools and local airports were soon beehives of activity, as students got their initial flight instruction. The period from early 1939 until Pearl Harbor in 1941 saw more civilians — over 63,000 — learning to fly than ever before in history and, quite likely, more than we will ever see again in a comparable span of time.

The tandem Cub was the favored trainer for these programs and soon Piper was producing hundreds per month. In the first nine months of 1939 alone, more Cubs were sold than all the rest of the 50 to 65 horsepower jobs combined.

The point is that this artificial situation threw everything out of context. Far more Cubs were being sold than Coupes, but would this have been the case had not World War II occurred? By late 1939 when both the J-3 and J-4 were available with Continental A-65s, the Cub sold for \$1598 and the Coupe for \$1995. Taylorcraft, Chief, and Luscombes were priced about the same as the Coupe. So much nicer than the Cub, only \$400 more in price and price competitive with its side-by-side competition, it's possible the Coupe could have become Piper's best seller. We'll never know, of course. When produc-

tion of civilian lightplanes ceased after Pearl Harbor, the Coupe's place on the production lines was taken by L-4s for the Army and modified Cruisers for the Navy. It would never be revived.

One source states that 1224 Coupes were built before it passed into history. The first one, NX-21599, Serial Number 4-400 (which, incidentally, was initially fitted with a 4-cylinder, inverted, inline engine called the Skymotor) flew in 1938 and the last one rolled out sometime in early 1942. About three full years of production was to be the Coupe's lot, although they would fly on down through the decades, suffering gradual attrition so that, today, about 280 of them remain.

In its short production life, the Coupe was constantly improved. The Continental A-50 powered J-4 was joined by the A-65 powered J-4A in July of 1939 and in March of 1941 the A-75-9 powered J-4E would come on stream as the last of the major production variants. There were Franklin (J-4B) and Lycoming (J-4F) versions, but they never sold as well as the Continental jobs.

With the J-4A, the Coupe got a pressure cowl and its own distinctive wheel pant shape. About midway through the Coupe's production life, it also got a fancy art deco interior, styled by a prominent industrial designer of that day named Harry S. Pack. Two-tone nautahyde upholstery, plastic knobs, chrome sticks, automotive-like instrument faces, etc., were intended to wow the customers and pull them away from those darn T-Craft and Chief showrooms. Chromed grillwork over the engine cooling inlets were supposed to create a "gee, this is a lot like my car" reaction.

None of the improvements helped in the speed department, however. With the larger engines and pressure cowl, the Coupe's cruise speed increased — but so did those of Taylorcraft, Aeronca and Luscombe who were certifying the same engines. This must have been a sore spot with Piper, because in July of 1940, they ran a full page ad in **The Sportsman Pilot** that proclaimed, "You'll get there **sooner** in a Piper Coupe . . . because it is **cruising range** that makes a cross-country airplane." With a map and a comparative chart, Piper showed that despite its slower cruise speed, the Coupe's greater fuel capacity (25 gallons with optional aux tanks) would allow it to travel 600 miles quicker than its faster but shorter legged competitors. The key was that the Coupe could make the trip on one fuel stop, while the others would have to make 2 or 3.

Such were the competitive wars of those days long gone by. Incidentally, NEVER in any of its ads for the Coupe did Piper ever refer to it as a J-4 . . . nor was the Cub ever referred to as a J-3. We pride ourselves today in knowing all the model numbers, letters, etc. of antique and classic airplanes, but when you thumb back through the magazines of the 20s, 30s and early 40s,

you find the manufacturers were not very much into model numbers. Names were preferred. At first the J-4 was referred to in company ads as the Piper Cub Coupe and by 1940 it was just the Piper Coupe . . . but NEVER the J-4.

Our Pin-Up Plane

To illustrate our retrospective piece on the Piper Coupe we present one of the most beautifully and authentically restored examples around today. It's a 1940 J4A owned and restored by Alan P. Anderson of Grosse Ile, Michigan. He bought it in 1966 for \$400.00 . . . supposedly in flying condition. The whole aft portion of the fuselage was found to be rusted out, however, so Al embarked on a ten year restoration project that saw the airplane rebuilt to better than new condition. A tremendous amount of time and effort went into aligning and fitting all components to much closer tolerances than did Piper. You'll note in the photo that all the original fairings are in place and look like new. Most of them were hammered out over wooden forms. The original nose bowl was retained, but required untold hours of welding, filing and hammering to get it into the shape you see here.

The major alteration to Al's NC30340 was the installation of a Continental C-85-12-F, replacing the original A-65. The instrument panel was also updated so that a radio could be installed. Otherwise, the Coupe is quite original. The original paint trim scheme and basic cream color were matched as closely as possible.

Completed in 1976, it was flown to Oshkosh that year and won the Antique Outstanding Workmanship Award. Subsequently, it appeared on the cover of the August 1977 issue of *The Vintage Airplane* and was covered in detail inside in an excellent article by Al himself. Over the years since, the Coupe has won what must be a room full of trophies. It was Antique Reserve Grand Champion at Oshkosh in 1977, Best Antique all over the mid-west, etc., etc. — all greatly deserved.

We ran into Al and NC30340 at the Mid Eastern Regional (EAA) Fly-In at Marion, OH in September and were amazed to find the airplane looking exactly as it did in 1976. It takes an extraordinary amount of time, effort and dedication to turn out a first class restoration, but one can't stop there. Airplanes . . . particularly fabric airplanes . . . go down in a hurry if they are not properly maintained. It takes a continuing effort and dedication to keep one looking as good as Al has this one . . . and it is something we should consider rewarding with a special trophy.

In a literary sense, that's what this article represents — **Sportsman Pilot's** salute to Al Anderson for his outstanding continued maintenance of his self-restored 1940 Piper J-4A Cub Coupe.

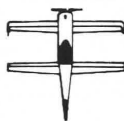


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5. COMPLETE MAILING ADDRESS OF KNOWN OFFICE OF PUBLICATION (Street, City, County, State and ZIP Code) (Not printers) 3965 W. College Ave., Milwaukee (Milwaukee Co.), WI 53221	
6. COMPLETE MAILING ADDRESS OF THE HEADQUARTERS OR GENERAL BUSINESS OFFICES OF THE PUBLISHERS (Not printers) P. O. Box 485, Hales Corners, WI 53130	
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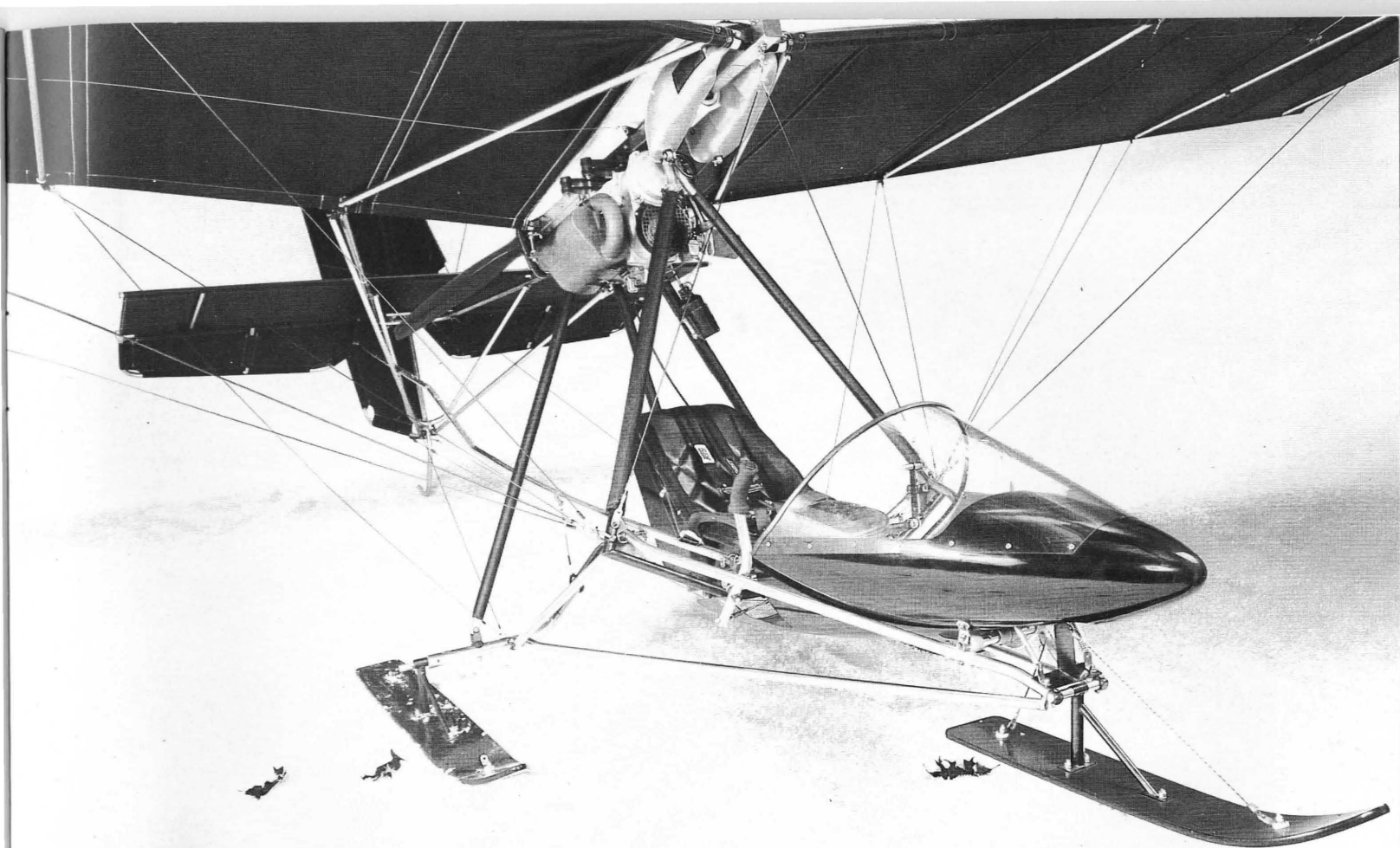


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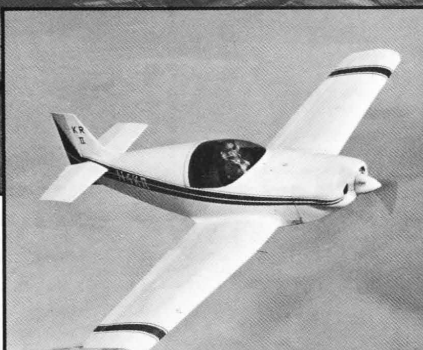
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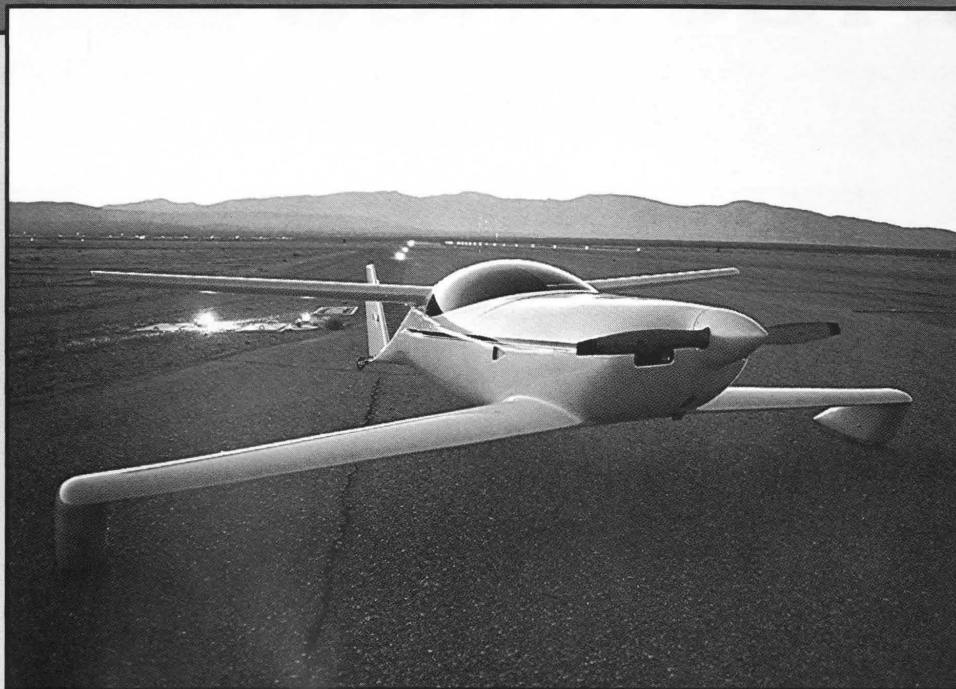
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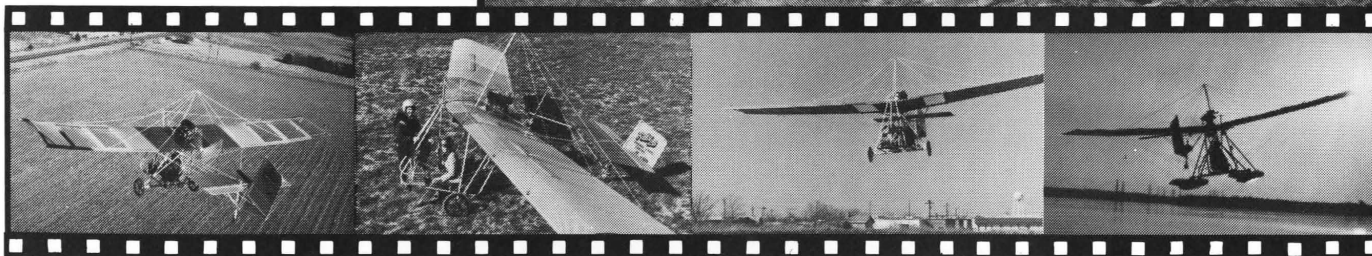
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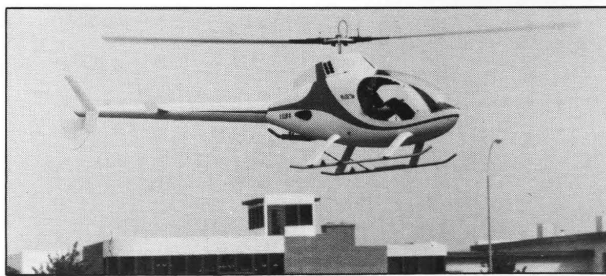


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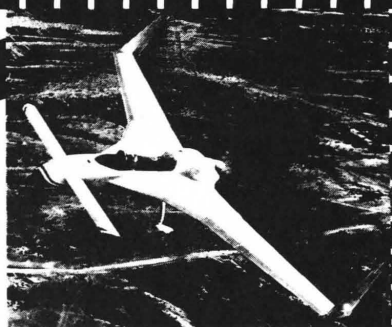
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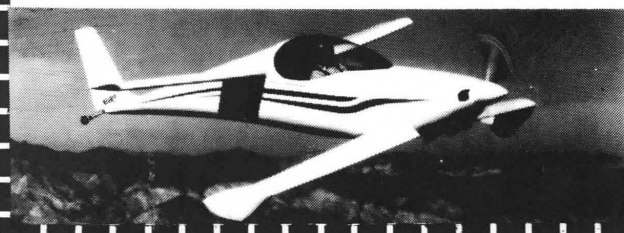
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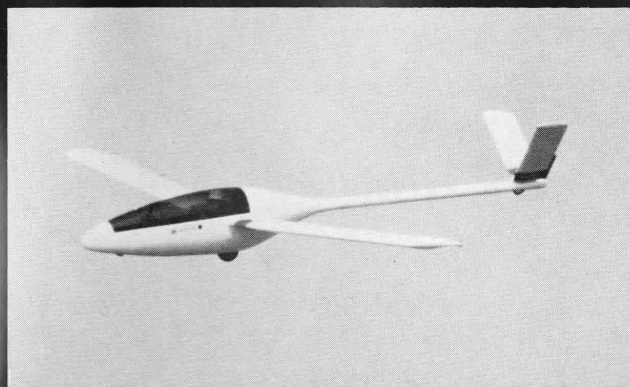
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